



CREATING THE AI FOR THE AWESOMEPOCALYPSE

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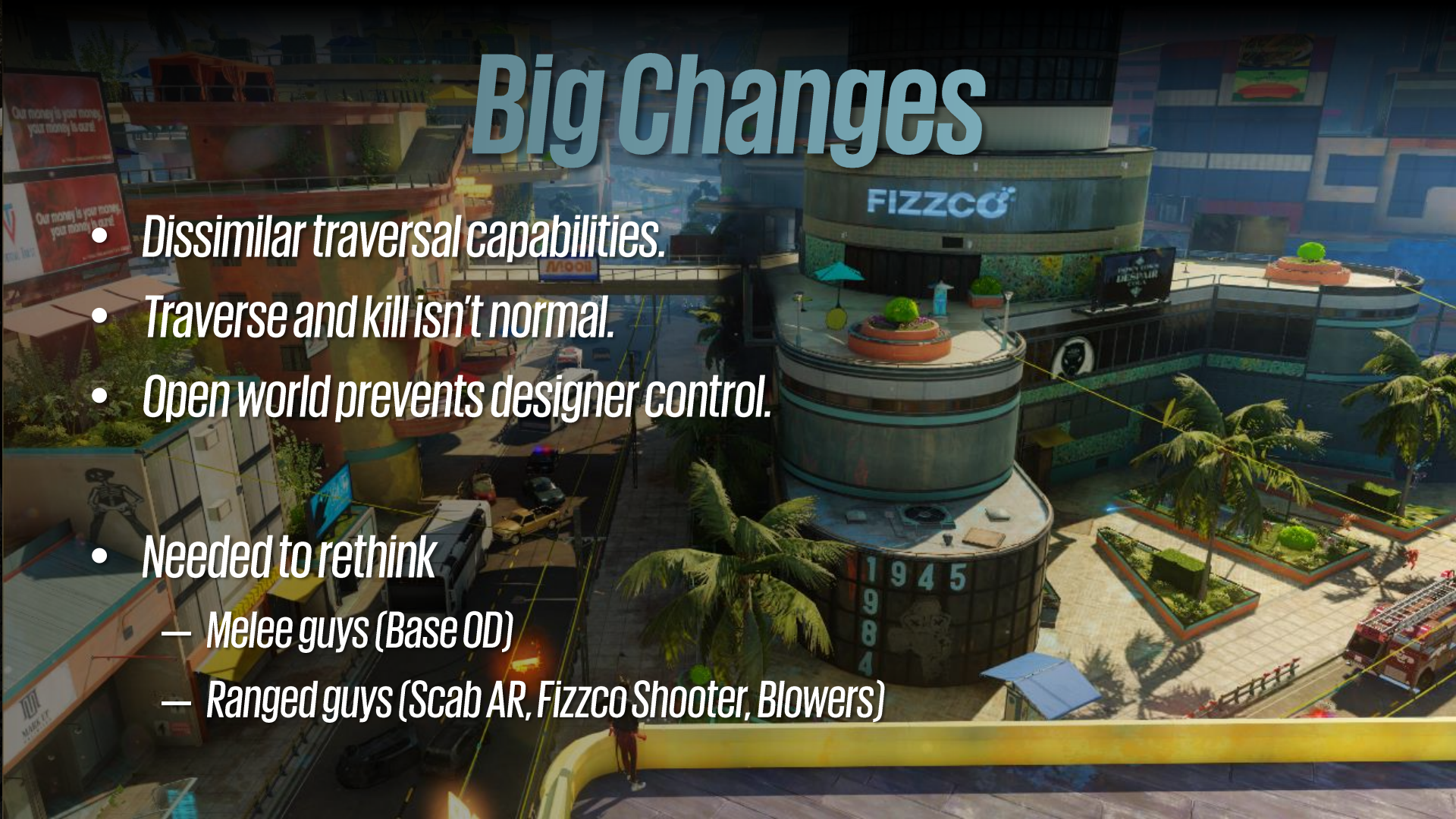


Resistance 3

- *Controlled pacing.*
 - *Spaces built to gameplay.*
 - *Player options are limited.*
- *Player and enemies are well matched.*
 - *Similar flank and fire tactics.*
 - *Comparable traversal.*

Big Changes

- Dissimilar traversal capabilities.
- Traverse and kill isn't normal.
- Open world prevents designer control.
- Needed to rethink
 - Melee guys (Base OD)
 - Ranged guys (Scab AR, Fizzco Shooter, Blowers)



Base OD

- *Our most common melee enemy.*
- *We've done the normal stuff.*
 - *Hit reacts*
 - *Deaths*
 - *Animation variation*
 - *Effects*
 - *Well tuned lunge*

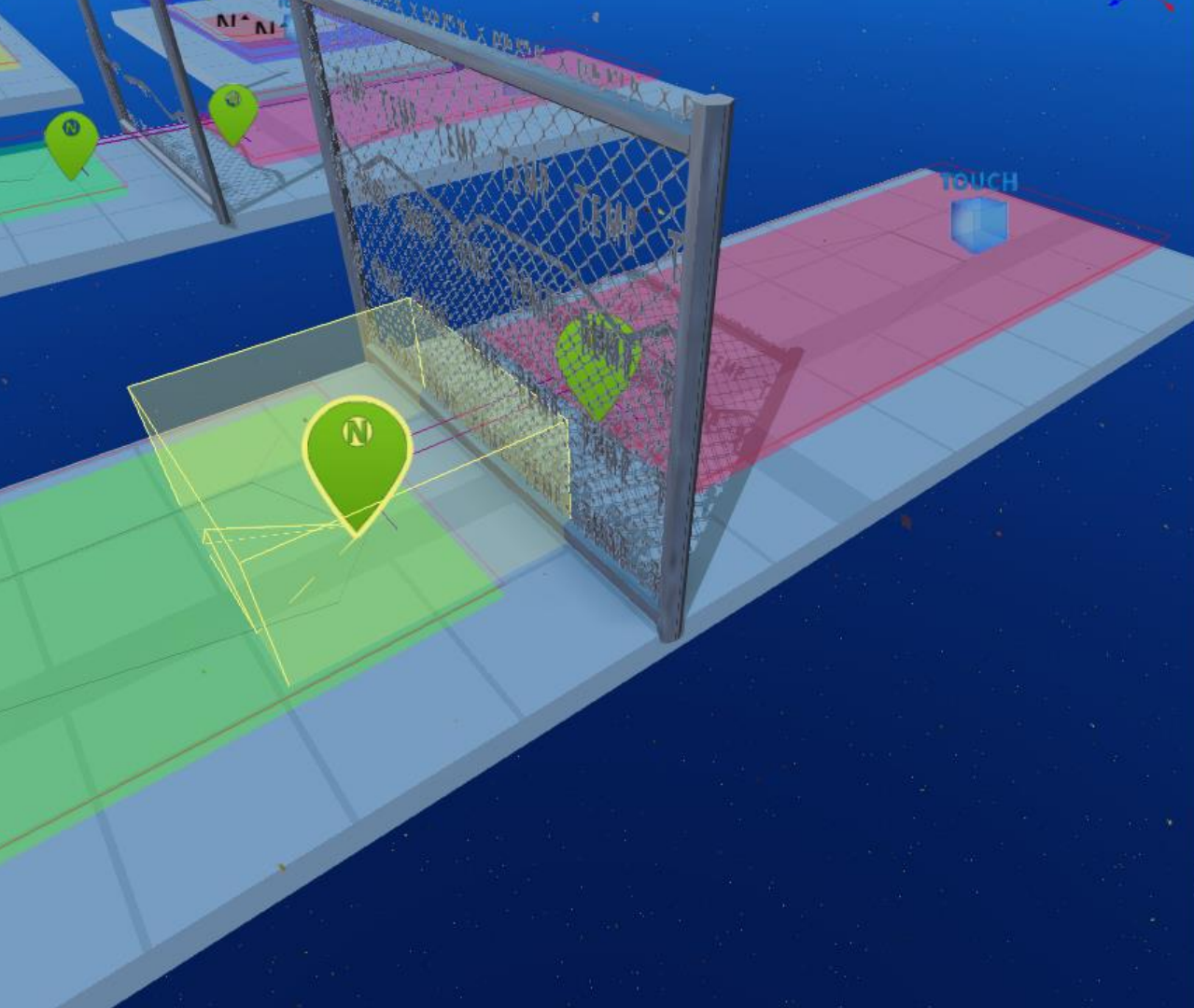












PostEffects ☐
Reflection ☐
ForceEmbeddedSamples ☐
AvoidEmbeddedSamples ☐

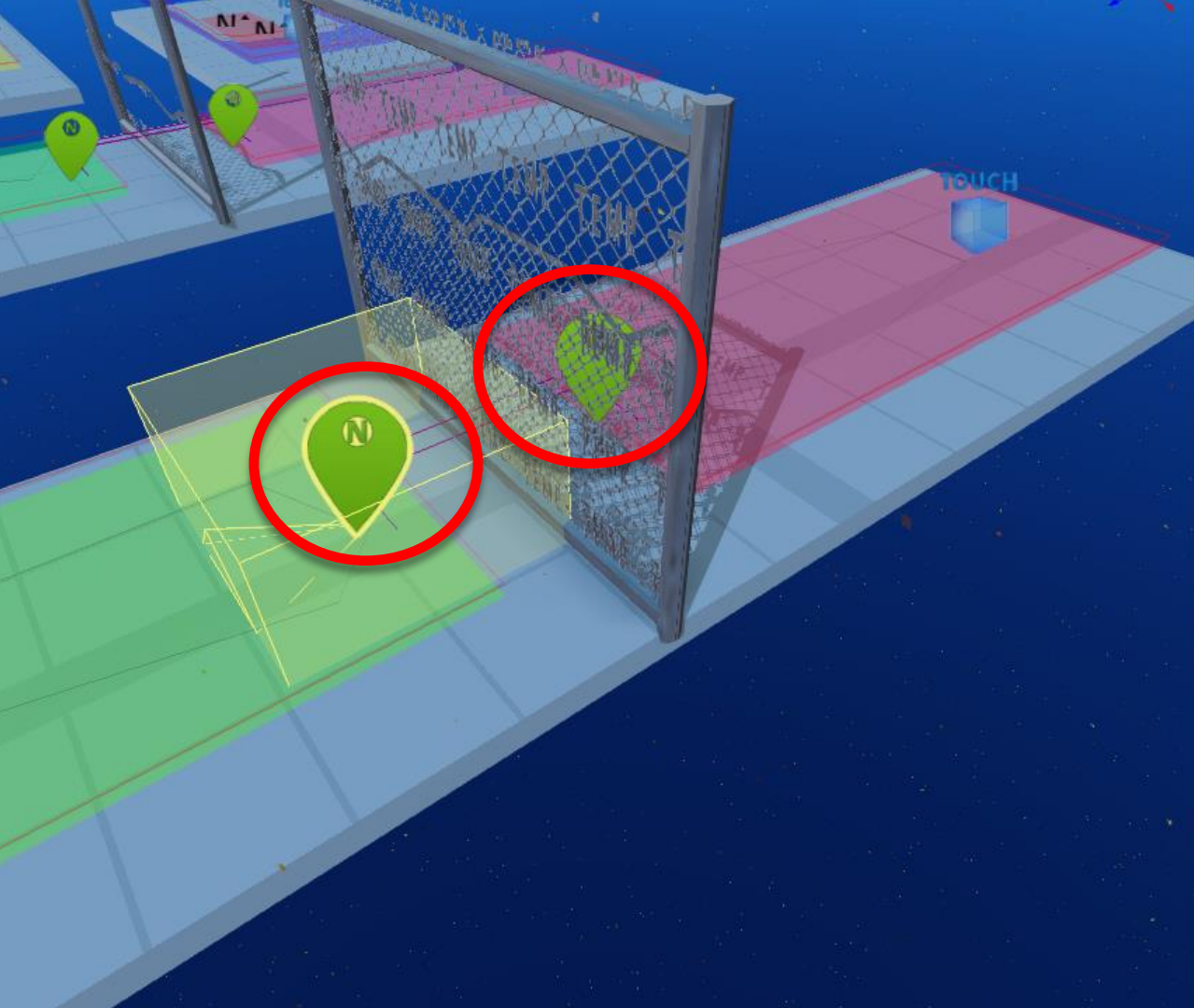
Actor Overrides

AssetType kVolume
AssetPath No Thumbnail
Template ☐
StartActive ☒

Components

CustomNavCluePrius

TargetNavClue Actor: CustomNavClue ▼
TargetHelper None ▼
RequiredAbilities
☐ k1MeterClimbOver
☒ k2MeterClimbOver
☐ k3MeterClimbOver
☐ k4MeterClimbOver
☐ k1MeterClimbUp
☐ k2MeterClimbUp
☐ k3MeterClimbUp
☐ k4MeterClimbUp
☐ k1MeterJumpDown
☐ k2MeterJumpDown
☐ k3MeterJumpDown
☐ k4MeterJumpDown
☐ kFly
☐ kHeroBotTraversal
☐ kJump
☐ kWallCrawl
☐ kGrind
☐ kUnderGrind
☐ kWallJump
☐ kWallRun
☐ kVault
RequiredEntityType
☒ kEveryone
☐ kNightTraverser
☐ kLarge



PostEffects ☐
Reflection ☐
ForceEmbeddedSamples ☐
AvoidEmbeddedSamples ☐

Actor Overrides

AssetType kVolume
AssetPath No Thumbnail
Template ☐
StartActive ☒

Components

CustomNavCluePrius

TargetNavClue Actor: CustomNavClue ▼
TargetHelper None ▼

RequiredAbilities
☐ k1MeterClimbOver
☒ k2MeterClimbOver
☐ k3MeterClimbOver
☐ k4MeterClimbOver
☐ k1MeterClimbUp
☐ k2MeterClimbUp
☐ k3MeterClimbUp
☐ k4MeterClimbUp
☐ k1MeterJumpDown
☐ k2MeterJumpDown
☐ k3MeterJumpDown
☐ k4MeterJumpDown
☐ kFly
☐ kHeroBotTraversal
☐ kJump
☐ kWallCrawl
☐ kGrind
☐ kUnderGrind
☐ kWallJump
☐ kWallRun
☐ kVault

RequiredEntityType
☒ kEveryone
☐ kNightTraverser
☐ kLarge

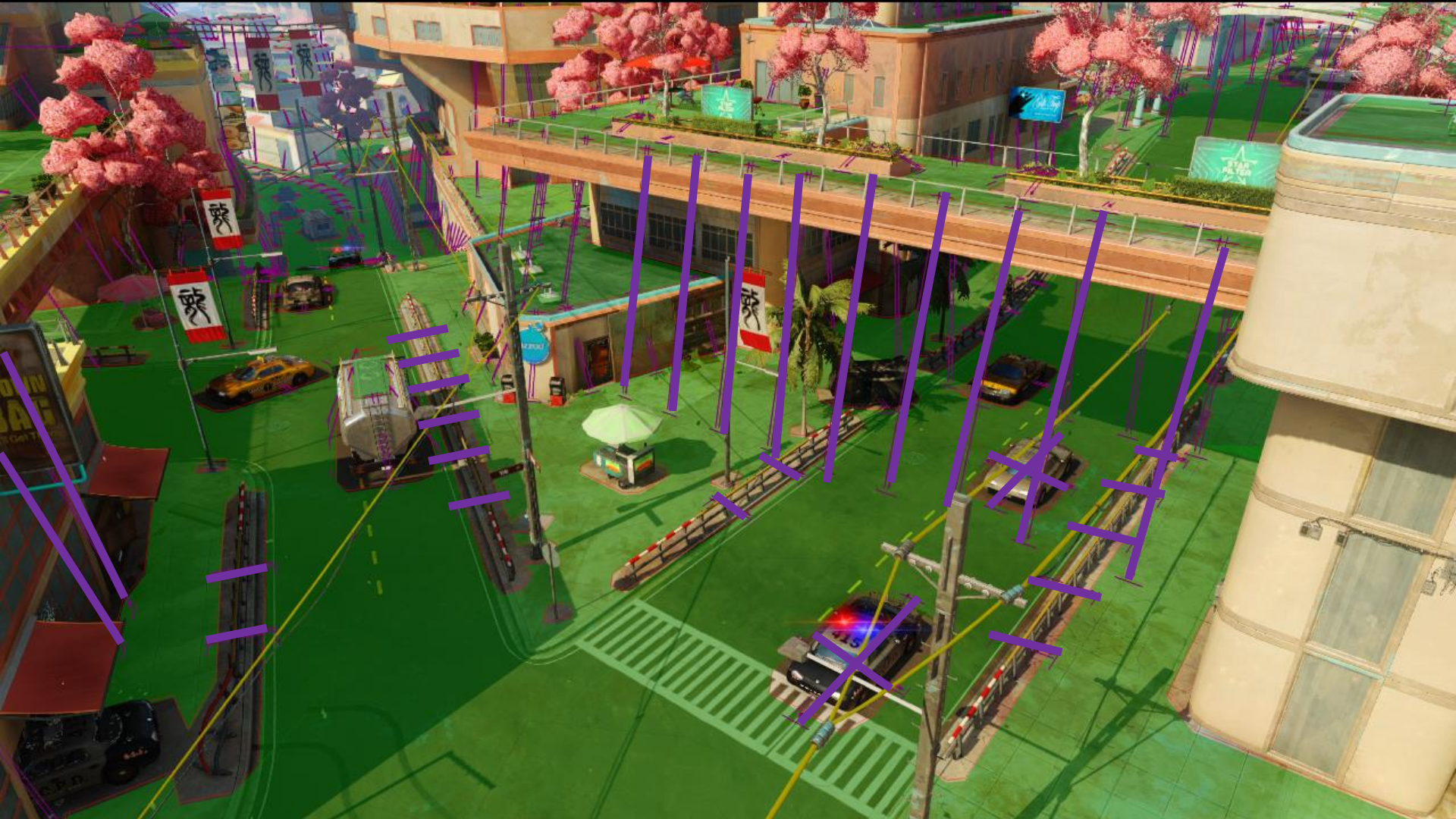




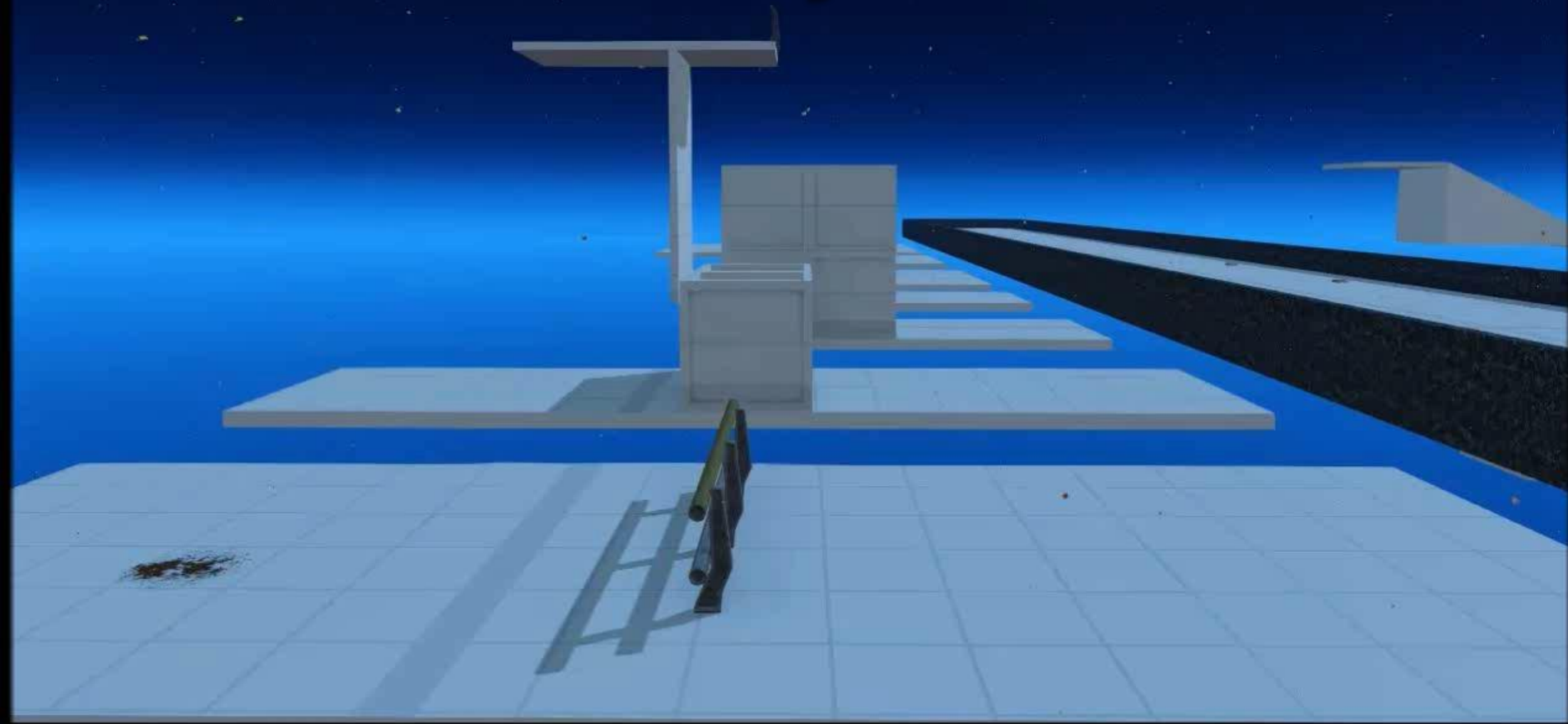




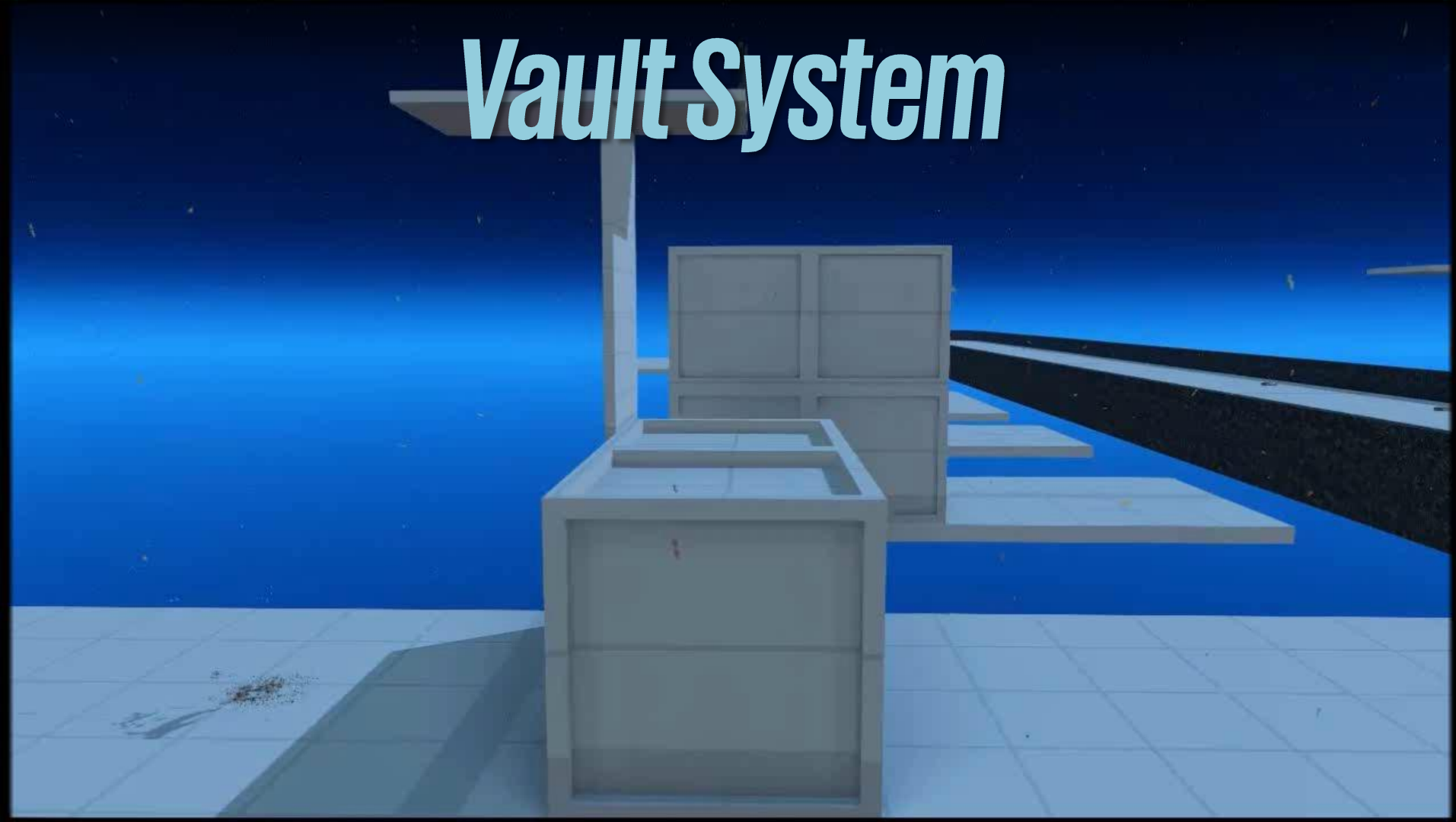




Vault System



Vault System



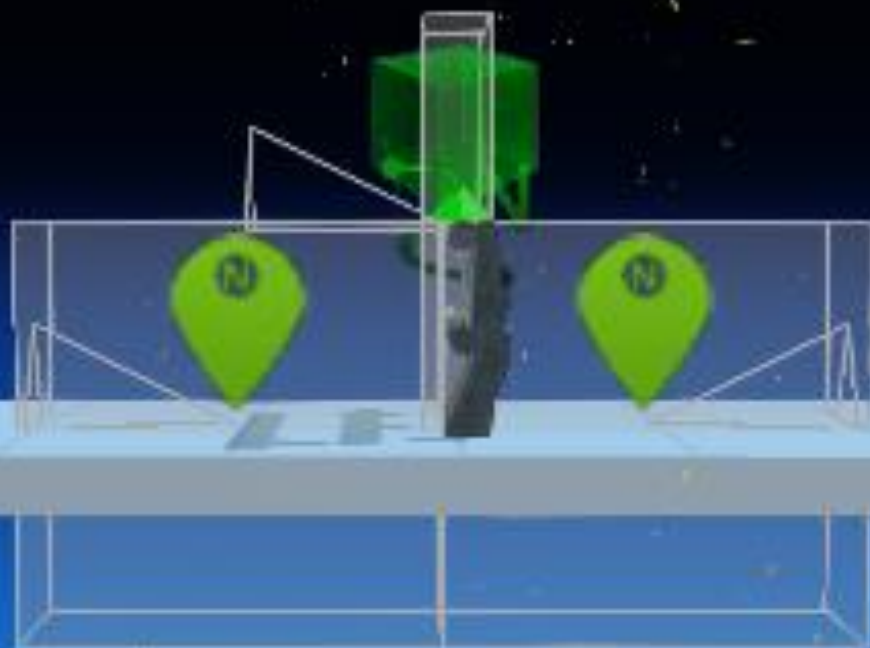
Vault System



A

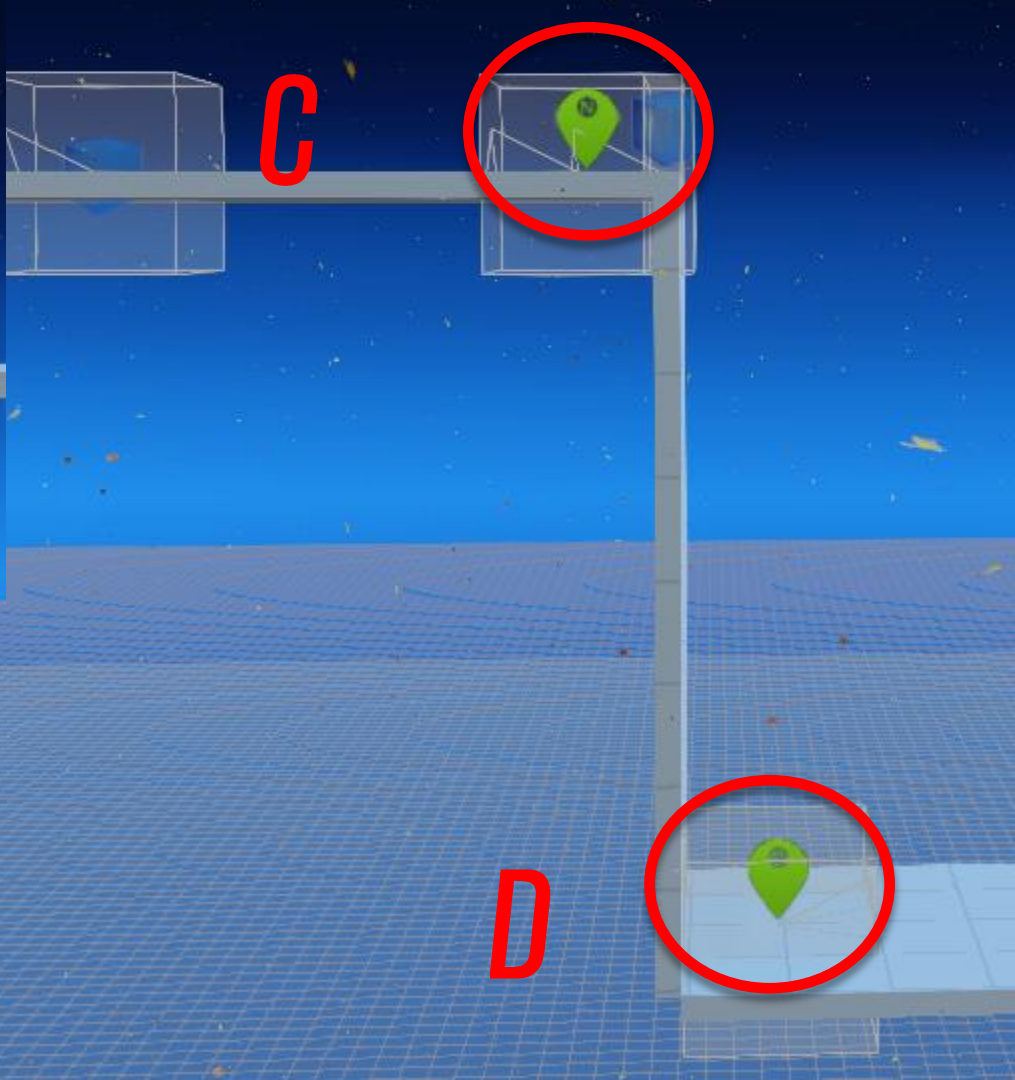


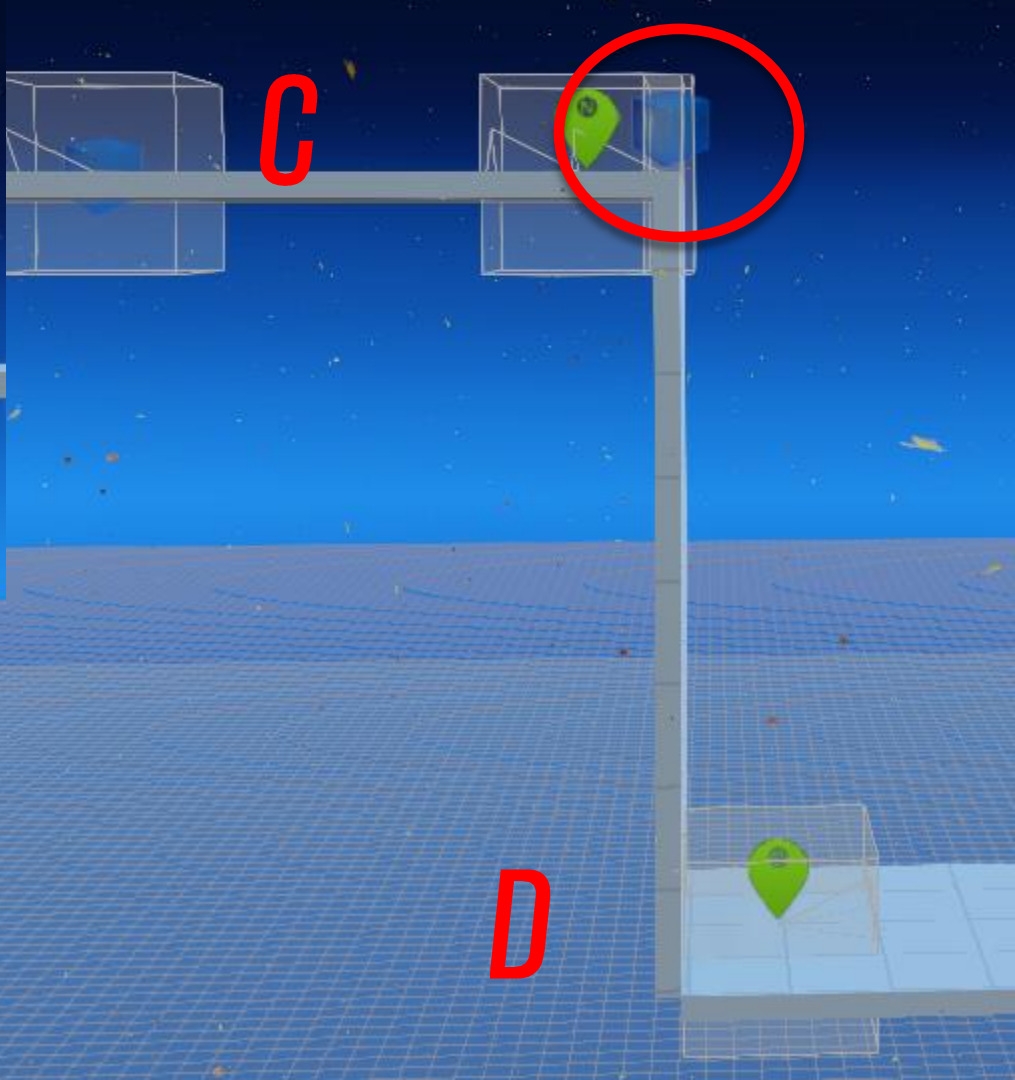
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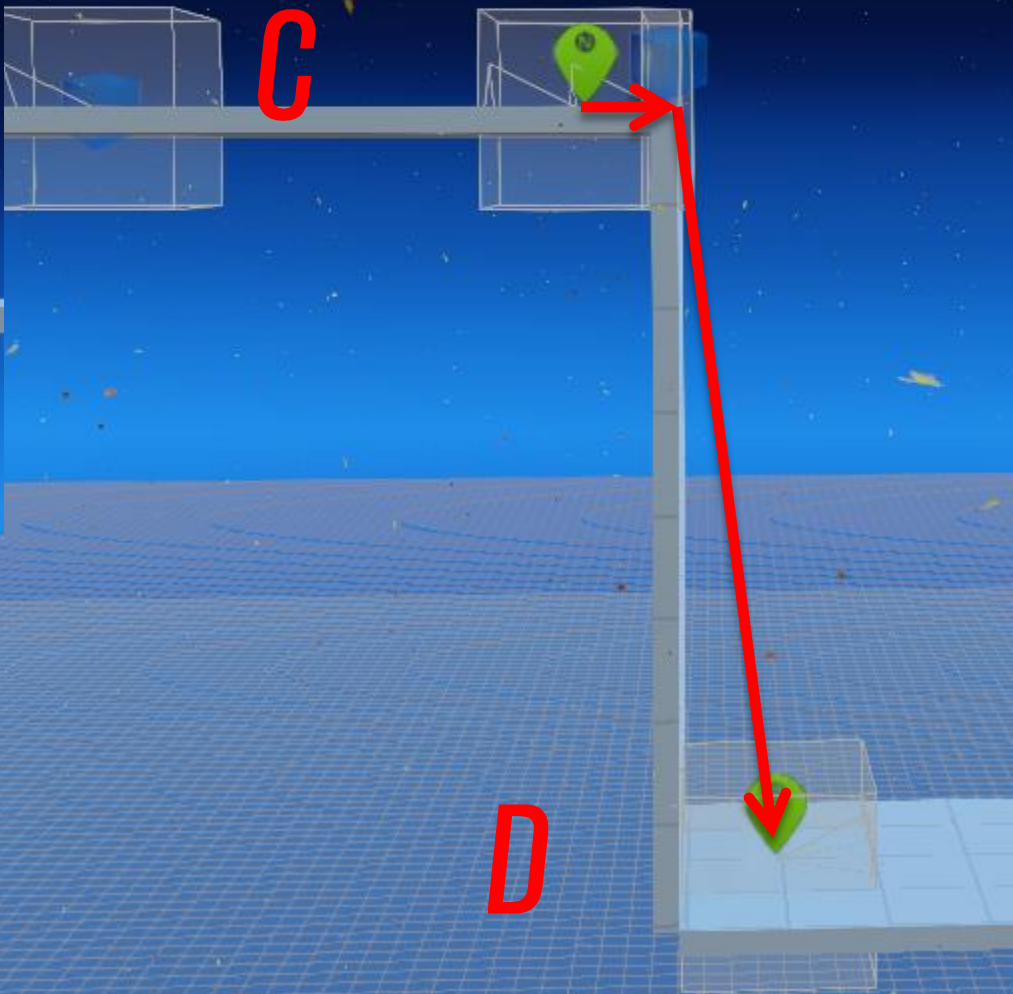
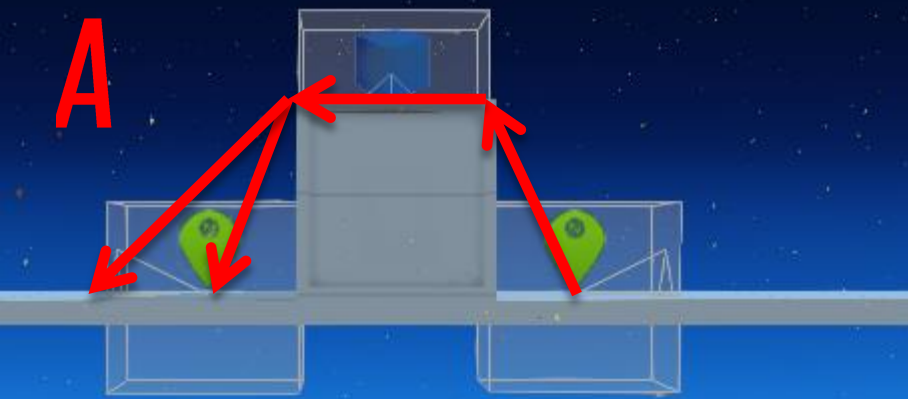


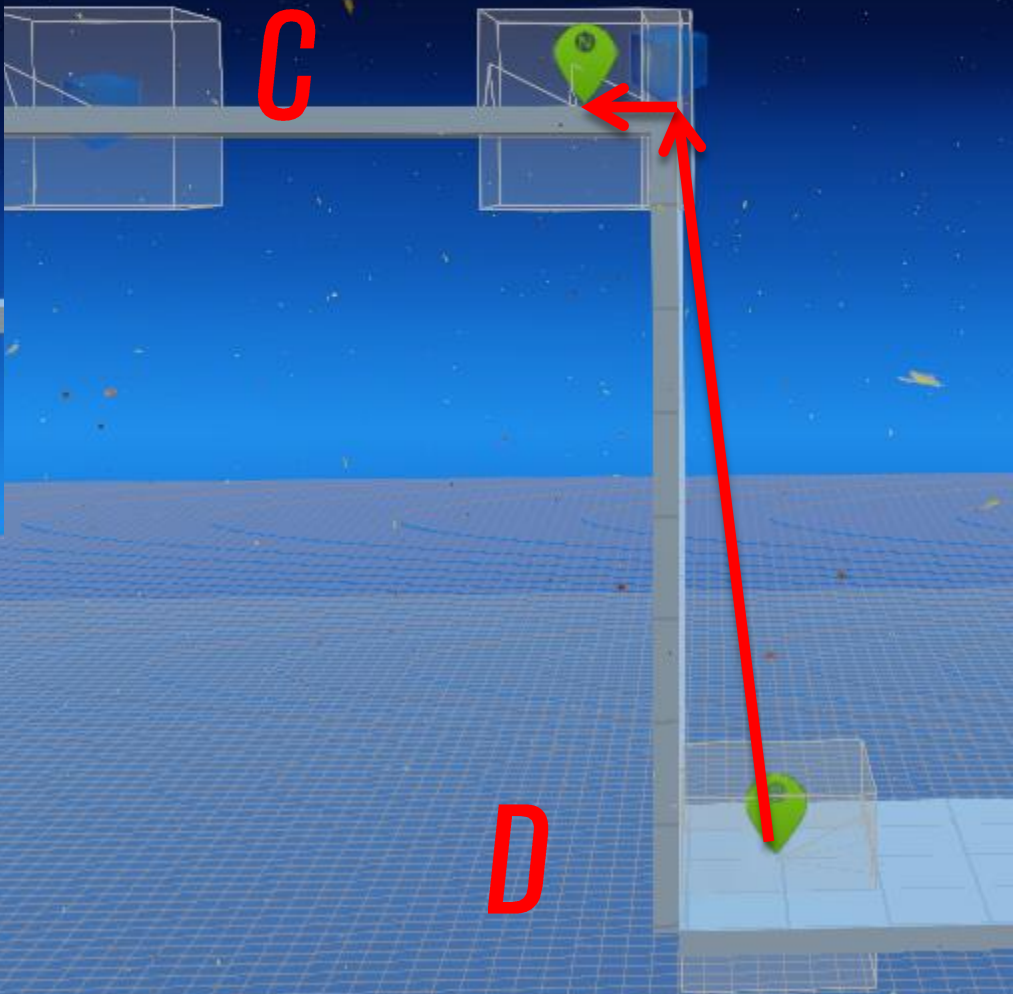
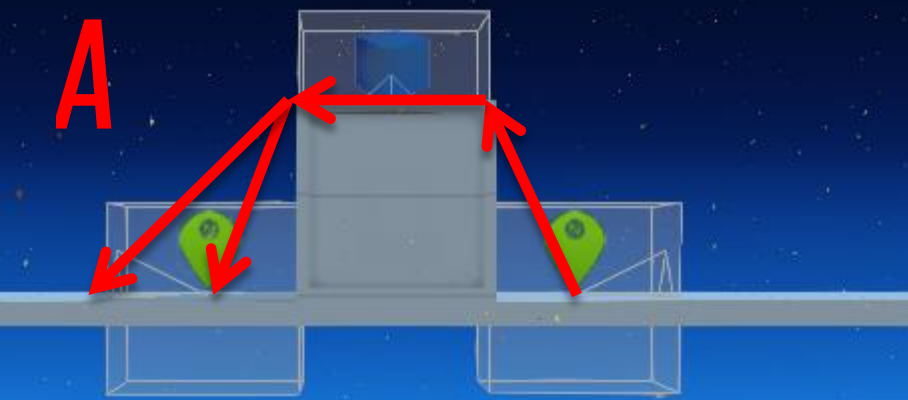
C, D











Vault Up

Height

☐ OD_Vault02_StandToVaultStart_Up100cm

Time

Rate

☐ OD_Vault02_VaultStandToVaultStart_Up150cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up200cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up300cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up400cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up600cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up800cm

Time

Rate

☐ Blend + -

Current Value

Rate

Pose 0

Interval 0

Pose 1

Interval 1

Pose 2

Interval 2

Pose 3

Interval 3

Pose 4

Interval 4

Pose 5

Interval 5

Pose 6

Interval 6

Output

Properties

DisplayName

Type

Rate

Value

Intervals 0

Intervals 1

Intervals 2

Intervals 3

Intervals 4

Intervals 5

Intervals 6

1

0

Start

0

End

1.25

Start

1.25

End

1.75

Start

1.75

End

2.5

Start

2.5

End

3.5

Start

3.5

End

5

Start

5

End

7

Start

7

End

10



Vault Up

Height

☐ OD_Vault02_StandToVaultStart_Up100cm

Time

Rate

☐ OD_Vault02_VaultStandToVaultStart_Up150cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up200cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up300cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up400cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up600cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up800cm

Time

Rate

☐ Blend + -

Current Value

Rate

Pose 0

Interval 0

Pose 1

Interval 1

Pose 2

Interval 2

Pose 3

Interval 3

Pose 4

Interval 4

Pose 5

Interval 5

Pose 6

Interval 6

Output

Properties

DisplayName

Type

Rate

Value

Intervals 0

Intervals 1

Intervals 2

Intervals 3

Intervals 4

Intervals 5

Intervals 6

Default

1

0

Start 0 End 1.25

Start 1.25 End 1.75

Start 1.75 End 2.5

Start 2.5 End 3.5

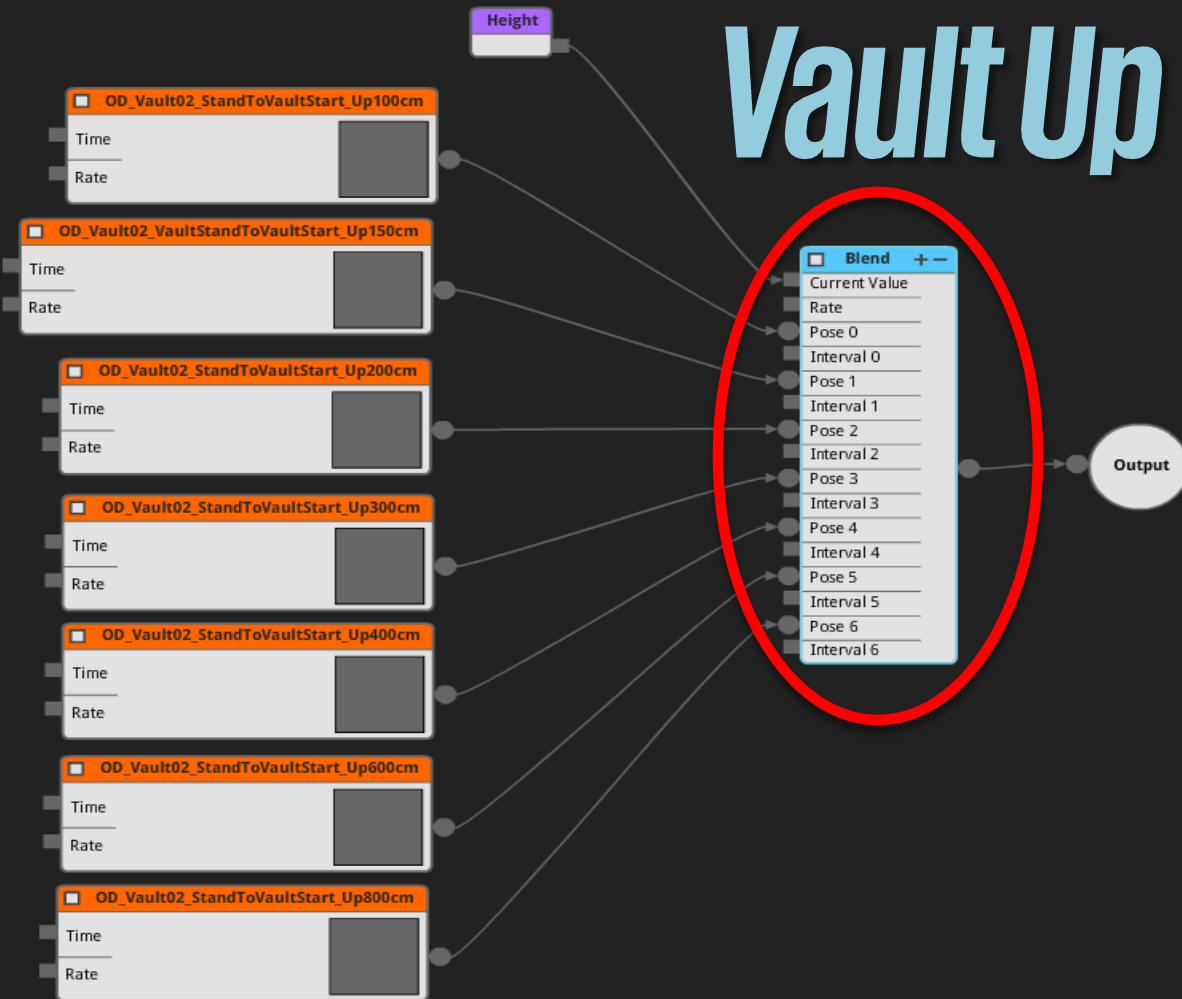
Start 3.5 End 5

Start 5 End 7

Start 7 End 10



Vault Up



Properties

DisplayName

Type

Default

Rate

Value

1

0

Intervals 0

Start

0

End

1.25

Intervals 1

Start

1.25

End

1.75

Intervals 2

Start

1.75

End

2.5

Intervals 3

Start

2.5

End

3.5

Intervals 4

Start

3.5

End

5

Intervals 5

Start

5

End

7

Intervals 6

Start

7

End

10



Vault Up

Height

☐ OD_Vault02_StandToVaultStart_Up100cm

Time

Rate

☐ OD_Vault02_VaultStandToVaultStart_Up150cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up200cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up300cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up400cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up600cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up800cm

Time

Rate

☐ Blend + -

Current Value

Rate

Pose 0

Interval 0

Pose 1

Interval 1

Pose 2

Interval 2

Pose 3

Interval 3

Pose 4

Interval 4

Pose 5

Interval 5

Pose 6

Interval 6

Output

Properties

DisplayName

Type

Rate

Value

Intervals 0

Intervals 1

Intervals 2

Intervals 3

Intervals 4

Intervals 5

Intervals 6

Default

1

0

Start 0 End 1.25

Start 1.25 End 1.75

Start 1.75 End 2.5

Start 2.5 End 3.5

Start 3.5 End 5

Start 5 End 7

Start 7 End 10



Vault Up

Height

☐ OD_Vault02_StandToVaultStart_Up100cm

Time

Rate

☐ OD_Vault02_VaultStandToVaultStart_Up150cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up200cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up300cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up400cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up600cm

Time

Rate

☐ OD_Vault02_StandToVaultStart_Up800cm

Time

Rate

☐ Blend + -

Current Value

Rate

Pose 0

Interval 0

Pose 1

Interval 1

Pose 2

Interval 2

Pose 3

Interval 3

Pose 4

Interval 4

Pose 5

Interval 5

Pose 6

Interval 6

Output

Properties

DisplayName

Type

Rate

Value

Intervals 0

Intervals 1

Intervals 2

Intervals 3

Intervals 4

Intervals 5

Intervals 6

Default

1

0

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

Start

End

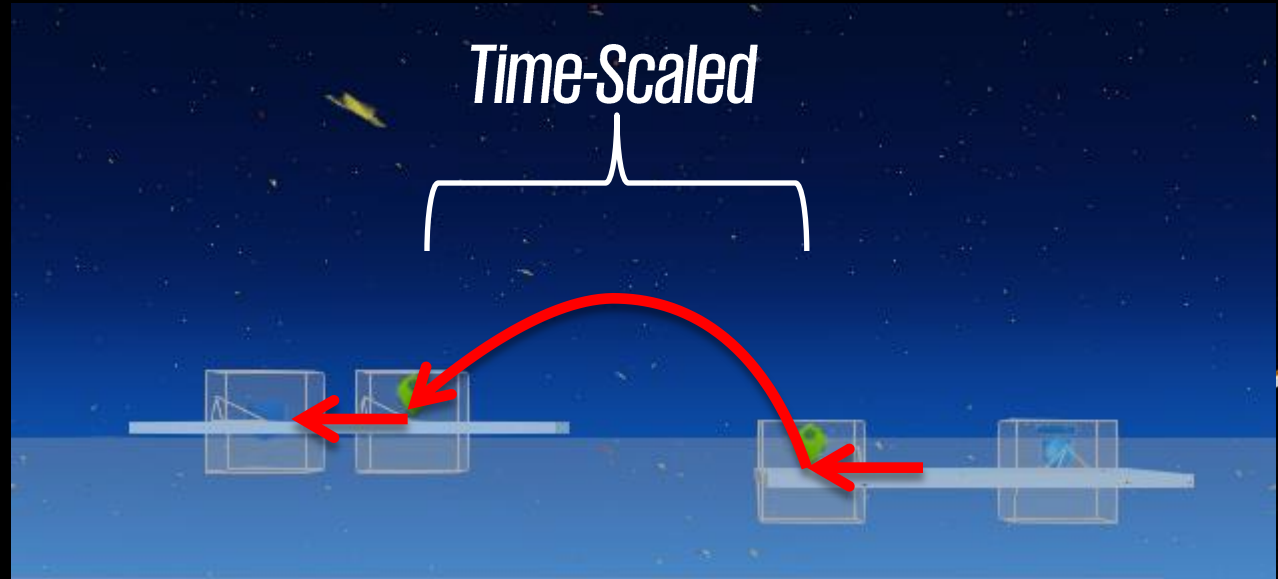


Vault System

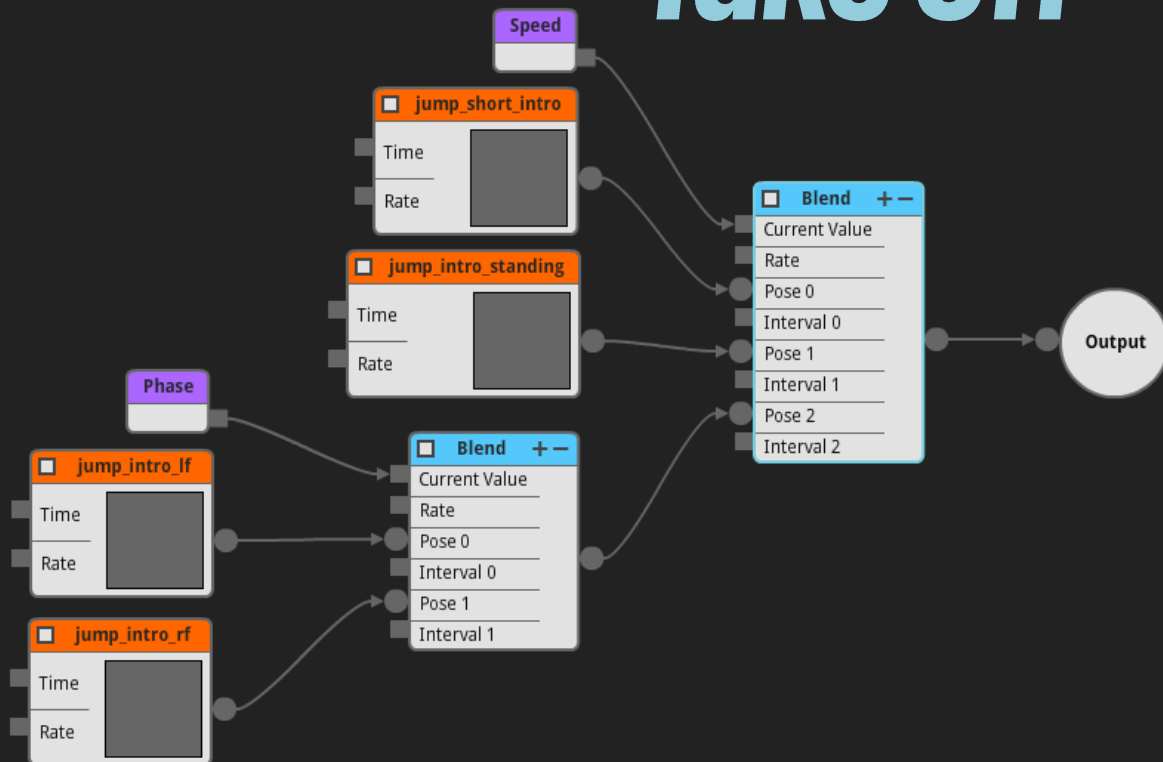


Jumps

- *Similar to vaults:*
 - *Take-off*
 - *In-Air*
 - *Land*
- *Output:*
 - *Width*
 - *Height*
 - *Foot-state*



Take Off



Properties

DisplayName

Type

Rate

Value

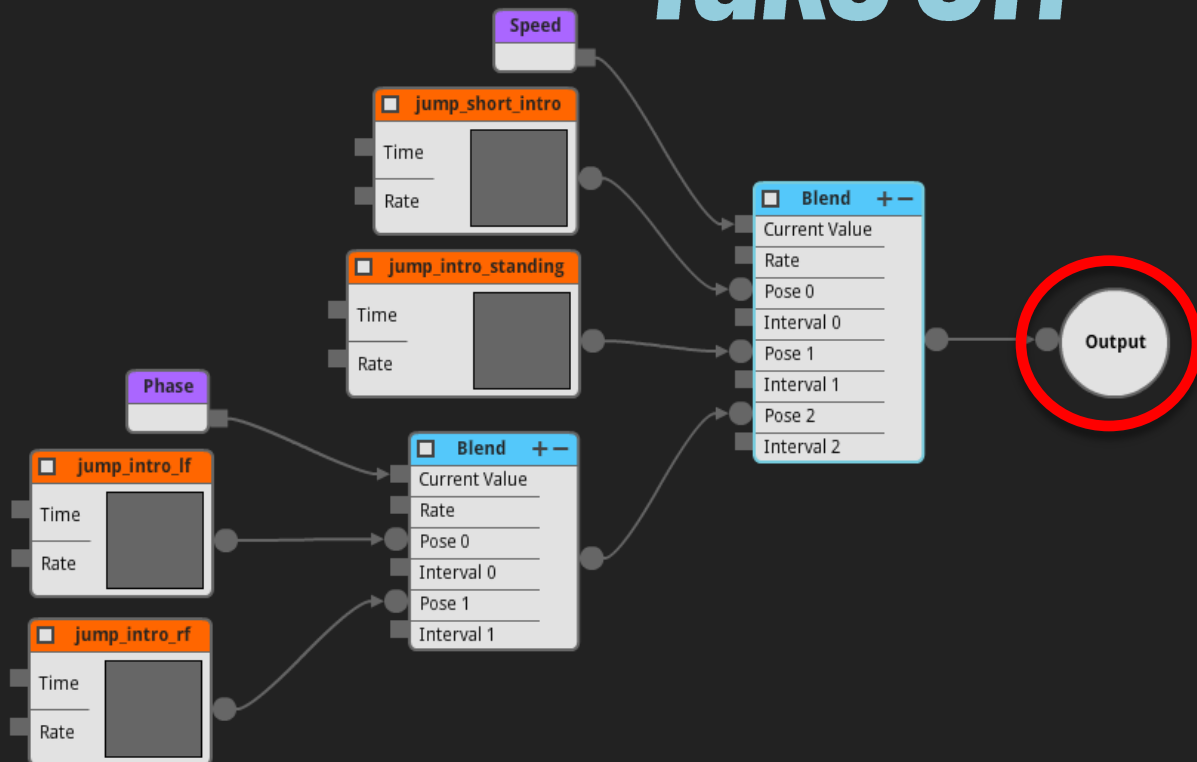
Intervals 0

Intervals 1

Intervals 2



Take Off



Properties

DisplayName

Type

Default

Rate

Value

Intervals 0

Start

End

Intervals 1

Start

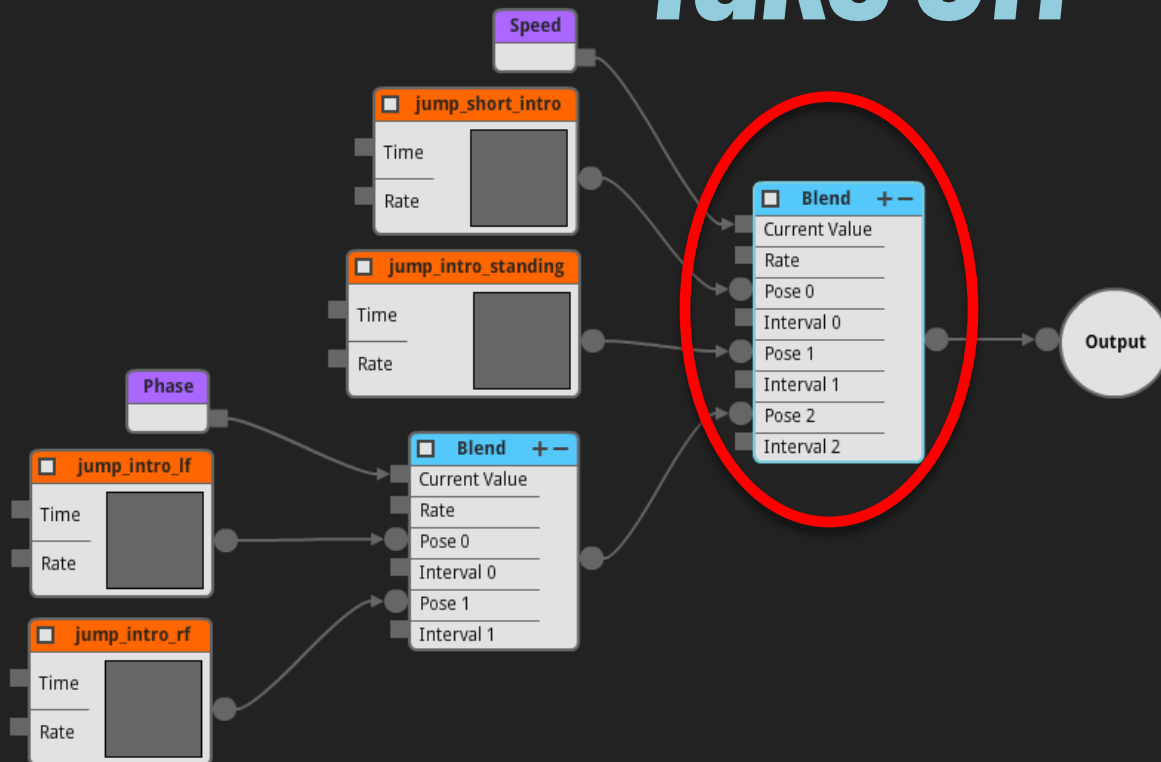
End

Intervals 2

Start

End

Take Off



Properties

DisplayName:

Type:

Rate:

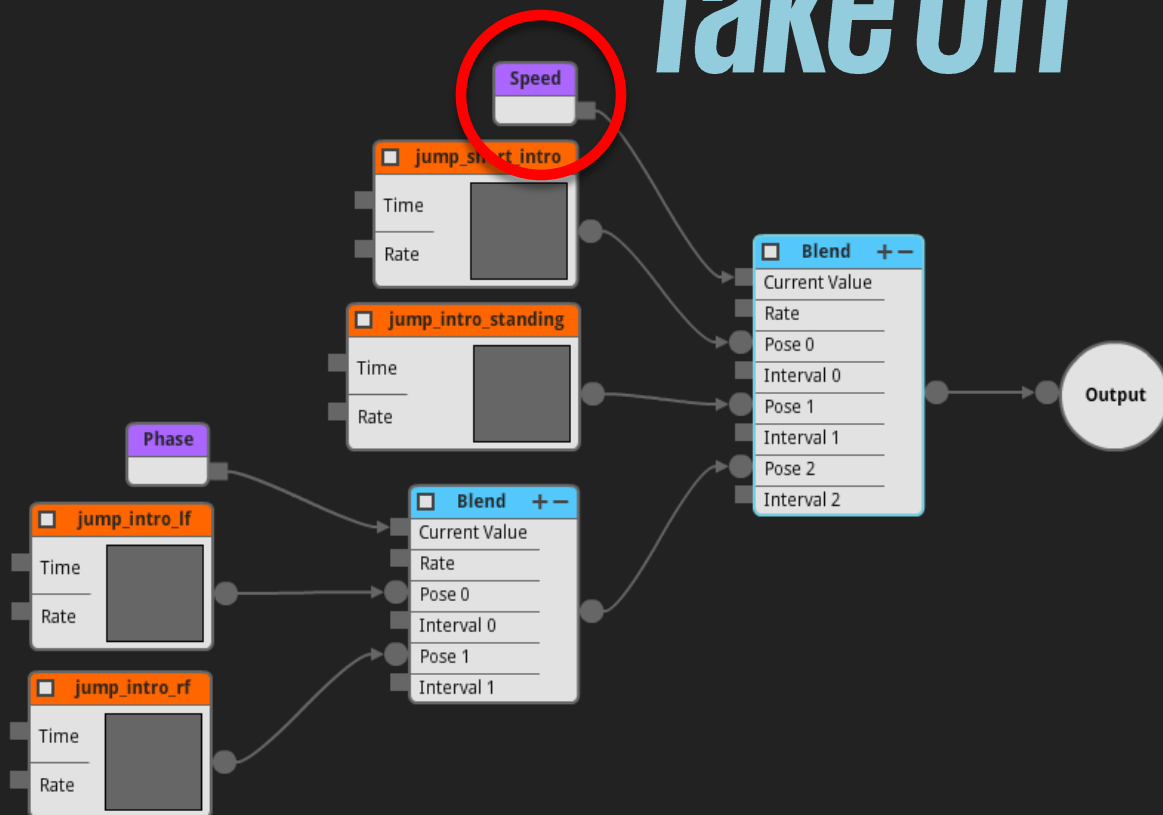
Value:

Intervals 0:

Intervals 1:

Intervals 2:

Take Off



Properties

DisplayName

Type

Rate

Value

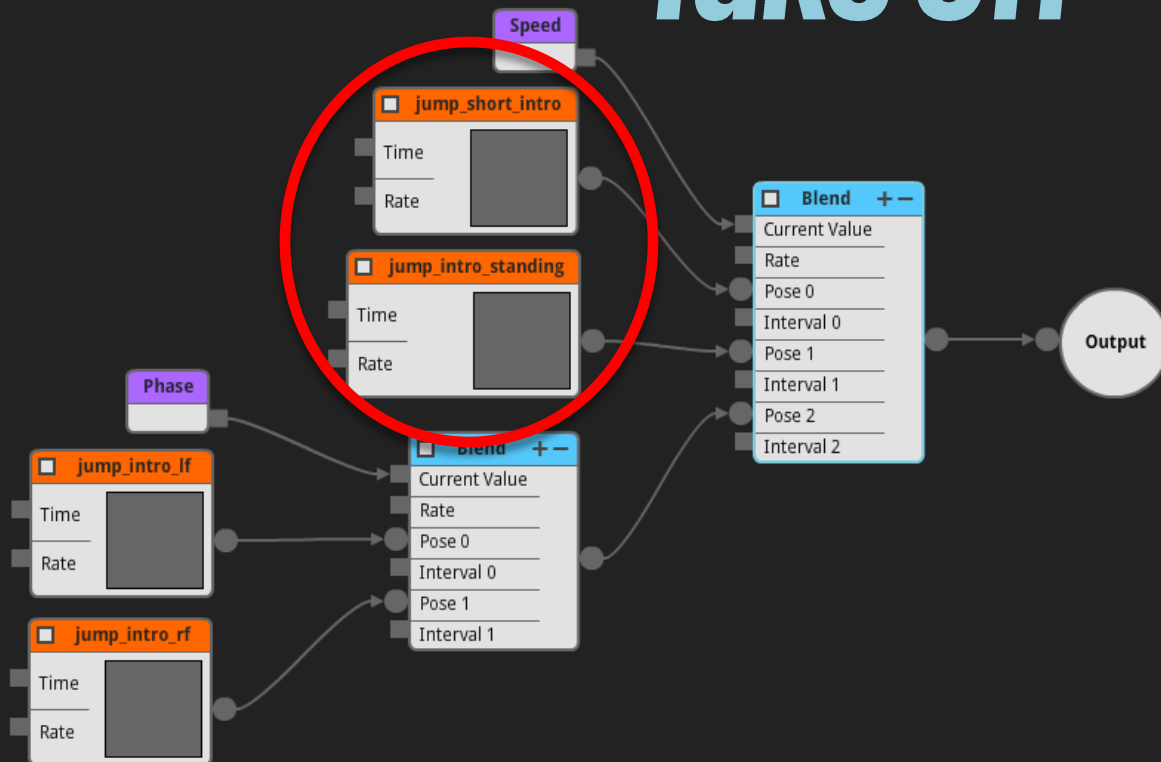
Intervals 0

Intervals 1

Intervals 2



Take Off



Properties

DisplayName

Type

Rate

Value

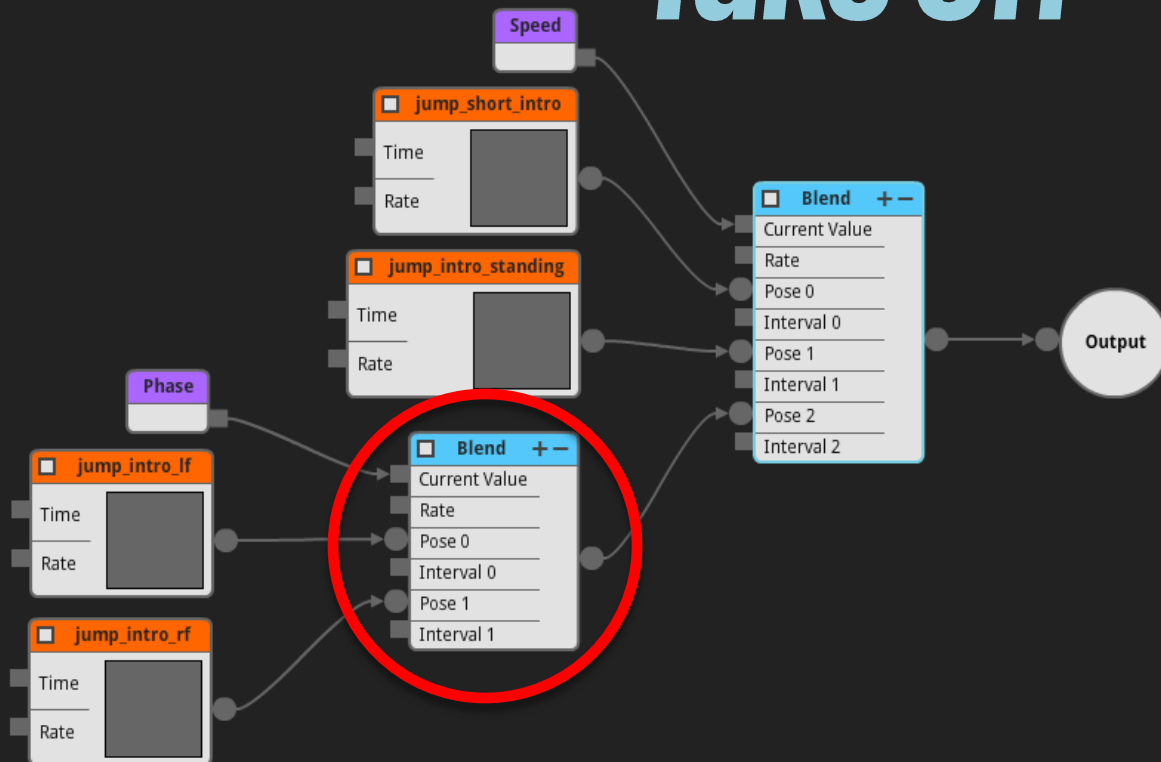
Intervals 0

Intervals 1

Intervals 2



Take Off



Properties

DisplayName

Type

Default

Rate

Value

Intervals 0

Intervals 1

Intervals 2

Start

End

Start

End

Start

End

0

5

5

8

8

16

End

End

End

End

End

End

5

8

8

16

16

16

End

End

End

End

End

End

5

8

8

16

16

16

End

End

End

End

End

End

5

8

8

16

16

16

End

End

End

End

End

End

5

8

8

16

16

16

End

End

End

End

End

End

5

8

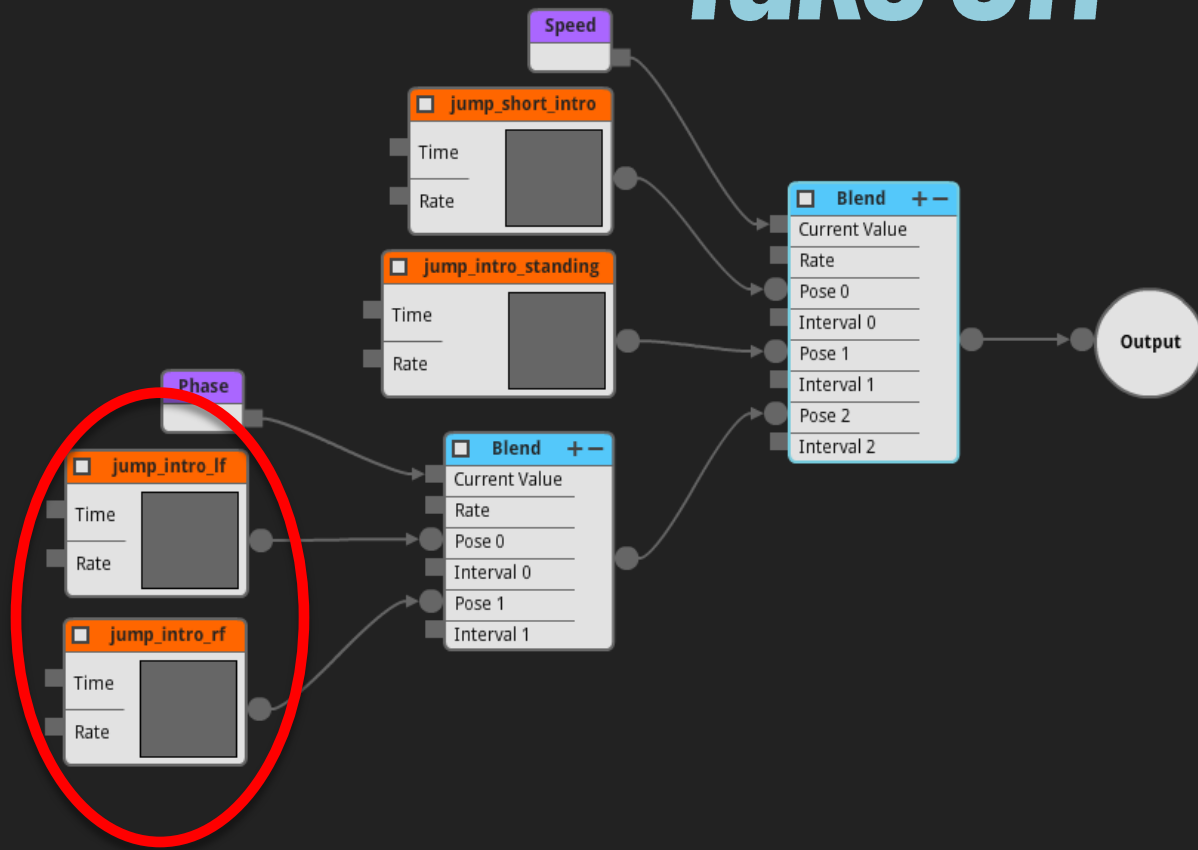
8

16

16

16

Take Off



Properties X

DisplayName

Type

Rate

Value

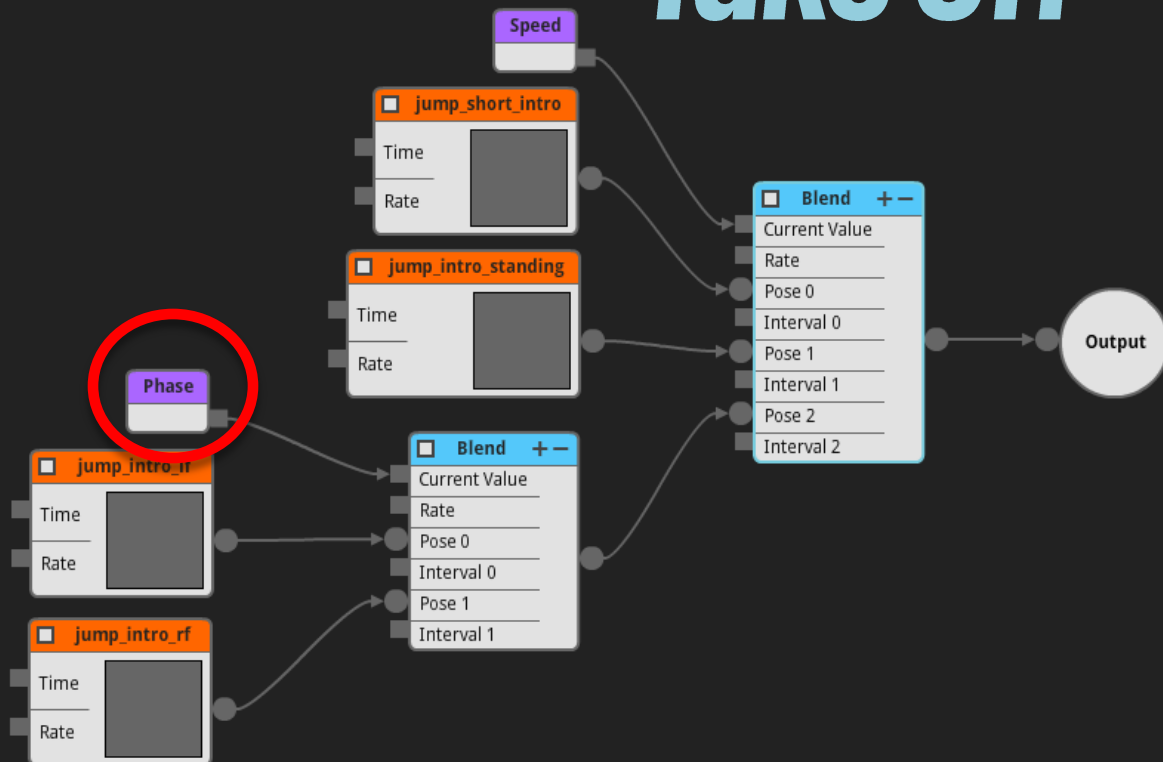
Intervals 0

Intervals 1

Intervals 2



Take Off



Properties

DisplayName

Type

Rate

Value

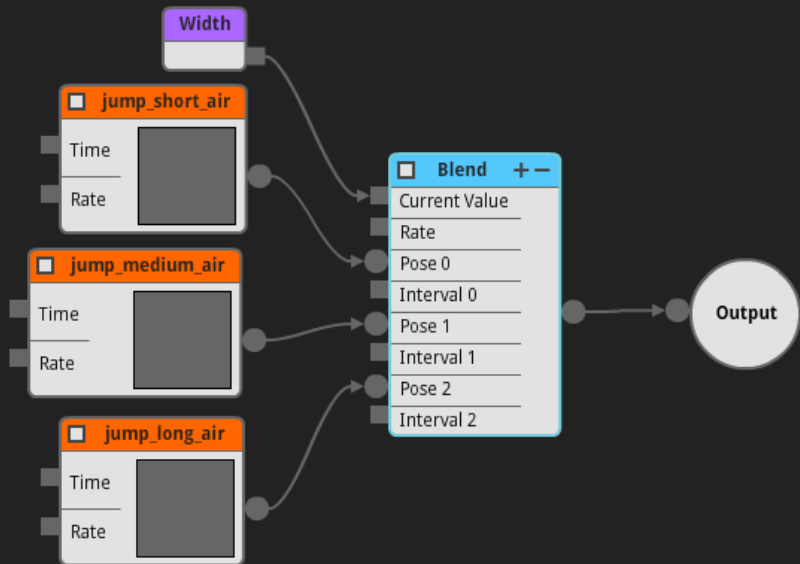
Intervals 0

Intervals 1

Intervals 2

The timeline visualization shows a blue bar with a green segment in the middle, indicating a transition or blend period. The green segment is positioned between the 5 and 8 marks on the timeline.

In Air



Properties

DisplayName

Type

Default

Rate

1

Value

0

Intervals 0



Start

0

End

4

Intervals 1



Start

4

End

8

Intervals 2



Start

8

End

16





Use The Group

- Individuals make the same mistakes.
- Just need one.
- Find potential places.



Nav Position Tracker


- Simultaneously track:
 - Closest



```
Avatar Name: female_skinny
Avatar Handle: 0x20641f
Avatar UID: 0xF010000002080
Avatar Name: hfx_base
Region: (Name)
Zone: (Name)
Scene Handle: 0x10278ee
Pos: (-95.03, 18.73, -193.65)
Rot: (0.00, 79.20, 0.00)
Allegiance: MP Blue Team
Body State Name: HeroStateSource
Body State Time: 1.00
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 0.01
Ground Type: Solid
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (536.01)
State: HeroStateSource (1.03)
Voice: Player
CombatTracker state: Not in combat
Total Targeter Count: 0.00000000
Fizzco Targeter Count: 0.00000000
SCAB Targeter Count: 0.00000000
00 Targeter Count: 0.00000000
```


Nav Position Tracker

- Simultaneously track:
 - Closest
 - Closest to ground pos



```
Avatar Name: female_skinny
Avatar Handle: 0x20641f
Avatar UID: 0xF010000002080
Asset Name: hfx_base
Region: (Name)
Zone: (Name)
Scene Handle: 0x10278ee
Pos: (-95.03, 18.73, -193.65)
Rot: (0.00, 79.20, 0.00)
Allegiance: MP Blue Team
Body State Name: HeroStateBounce
Body state Time: 1.00
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 0.00
Ground Type: Solid
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (536.01)
State: HeroStateBounce (1.03)
Voice: Player
CombatTracker state: Not in combat
Total Targeter Count: 0.0000000
Fizzco Targeter Count: 0.0000000
SCAB Targeter Count: 0.0000000
00 Targeter Count: 0.0000000
```

Nav Position Tracker

- Simultaneously track:
 - Closest
 - Closest to ground pos
 - Cardinal offsets

Closest To Left (mesh 0)
Closest To Right (mesh 0)
Closest To Ground (mesh 0)
Closest To Left (mesh 0)

Avatar Name: female_skinny
Avatar Handle: 0x20641f
Avatar UID: 0xF010000002080
Avatar Name: hfx_base
Region: (Name)
Zone: (Name)
Scene Handle: 0x10278ee
Pos: (-95.03, 18.73, -193.65)
Rot: (0.00, 79.20, 0.00)
Affiliation: MP Blue Team
Body State Name: HeroStateSource
Body state Time: 1.00
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 0.01
Ground Type: Solid
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (536.01)
State: HeroStateSource (1.03)
Voice: Player
CombatTracker state: Not in combat
Total Targeter Count: 0.00000000
Fizzco Targeter Count: 0.00000000
SCAB Targeter Count: 0.00000000
00 Targeter Count: 0.00000000

Nav Position Tracker

The image displays a top-down perspective of a game environment. A character is positioned on a dark-colored car with the number '415' on its side. Several proximity labels with circular icons are overlaid on the scene: 'Closest To Light (mesh 0)' with a light icon, 'Closest To Car (mesh 0)' with a car icon, 'Closest To Ground (mesh 0)' with a ground plane icon, and 'Closest To Left (mesh 0)' with a left arrow icon. To the left of the main car, there is a smaller, damaged car that is on fire. The background shows a city street with a crosswalk and a building with a yellow and blue facade.

On the right side of the image, there is a detailed data panel with the following information:

```

Avatar Name: female_skinny
Avatar Handle: 0x20641f
Avatar UID: 0xF010000002080
Avatar Name: hfx_base
Region: (Name)
Zone: (Name)
Scene Handle: 0x10278ee
Pos: (-95.03, 18.73, -193.65)
Rot: (0.00, 79.20, 0.00)
Allegiance: MP Blue Team
Body State Name: HeroStateBounce
Body state Time: 1.00
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 0.00
Ground Type: Solid
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (536.01)
State: HeroStateBounce (1.03)
Voice: Player
CombatTracker state: Not in combat
Total Targeter Count: 0.00000000
Fizzco Targeter Count: 0.00000000
SCAB Targeter Count: 0.00000000
00 Targeter Count: 0.00000000
  
```

Actor Name: Female_Skinny
 Actor Handle: 0x20641f
 Actor UID: 0x0010000002080
 Asset Name: hfz_base
 Region: (Name)
 Zone: (Name)
 Scene Handle: 0x10278ee
 Pos: (-95.93, 18.79, -193.65)
 Rot: (0.00, 79.20, 0.00)
 Allegiance: YF Blue Team
 Body State Name: HeroStateBounce
 Body State Time: 1.03
 Weapon State Name: HeroWeaponStateIdleReady
 Weapon State Time: 336.01
 Ground Type: BadInStance (mesh 0)
 Health: 100.00 / 100.00 Injured: 0.00
 Target Immunity: 0
 State: HeroWeaponStateIdleReady (336.01)
 State: HeroStateBounce (1.03)
 Voice: Player
 CombatTracker state: Not in combat
 Total Targeter Count: 0.00000000
 Fizzco Targeter Count: 0.00000000
 ScAB Targeter Count: 0.00000000
 GD Targeter Count: 0.00000000

Actor Name: Female_skinny
Actor Handle: 0x20841f
Actor UID: 0xF010070002080
Asset Name: hfs_base
Region: (None)
Zone: (None)
Scene Handle: 0x10278ee
Pos: (-95.02, 11.85, -150.78)
Rot: (0.00, -47.17, 0.00)
Allegiance: MP Blue Team
Body State Name: HeroStateIdle
Body state Time: 1.33
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 310.48
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (310.48)
State: HeroStateIdle (1.33)
Voice: Player
CombatTracker state: Not in combat
Total Targeter Count: 0.00000000
Fizzco Targeter Count: 0.00000000
SCAB Targeter Count: 0.00000000
QD Targeter Count: 0.00000000

Closest To left (mesh 0)

Closest To ground (mesh 0)

Closest To back (mesh 0)



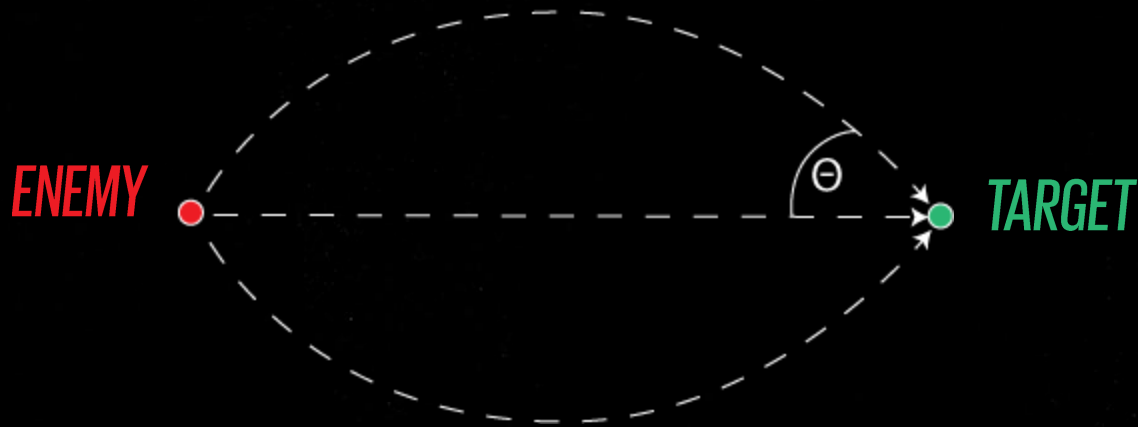
Actor Name: Female_Skinny
Actor Handle: 0x20641f
Actor UID: 0xF010000002080
Asset Name: hfs_base
Region: (None)
Zone: (None)
Scene Handle: 0x10278ee
Pos: (-98.65, 18.24, -119.19)
Rot: (0.00, -175.70, 0.00)
Allegiance: MP Blue Team
Body State Name: HeroStateUnderGrind
Body State Time: 0.83
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 460.03
Ground Type: Bad Distance
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (460.03)
State: HeroStateUnderGrind (0.83)
Voice: Player
CombatTracker state: Not in combat
Total Targeter Count: 0.00000000
Fizzco Targeter Count: 0.00000000
SCAB Targeter Count: 0.00000000
SP Targeter Count: 0.00000000

Spreading Out




Arc Angles

- *Started with arc angles.*



- *Managed by a Flanking Manager.*
- *Works great near the player.*



Actor Name: Female_Skinny
Actor Handle: 0x1001fb
Actor UID: 0xF02000000208F
Asset Name: hfs_base
Region: (None)
Zone: (None)
Scene Handle: 0x1000148
Pos: (-66.24, 0.10, -51.54)
Rot: (0.00, 106.82, 0.00)
Allegiance: MP Blue Team
Body State Name: HeroStateJumpLand
Body State Time: 0.60
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 130.61
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (130.61)
State: HeroStateJumpLand (0.60)
Voice: Player
CombatTracker state: Not in combat

Nav Poly Weighting



- *Started with poly weighting.*
- *Didn't work.*















Adding Weight




Influence Spheres



```
Actor Name: Female_Heavy
Actor Handle: 0x13758d
Actor UID: 0xP000000002032
Asset Name: hfH_base
Region: (None)
Zone: (None)
Scene Handle: 0x101bf2b
Pos: 7.82, 16.67, 95.146, 96)
Rot: 10.00, 90.37, 0.00)
Alligiance: HP Blue Team
Body State Name: HeroStateGrind
Body State Time: 0.23
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 104.59
Ground Type: Bad Distance
Health: 85.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (104.59)
State: HeroStateGrind (0.23)
Voice: Player
CombatTracker state: In combat
Total Targeter Count: 11.00000000
Fizzco Targeter Count: 0.00000000
SCAB Targeter Count: 0.00000000
OD Targeter Count: 11.00000000
```


Influence Spheres



```
Actor Name: Female_Havvy
Actor Handle: 0x13758d
Actor UID: 0xP000000002032
Asset Name: hfh_base
Region: (None)
Zone: (None)
Scene Handle: 0x11bf2b
Pos: 7.82, 16.67, 95.146, 96
Rot: 10.00, 90.37, 0.00
Alligiance: HP Blue Team
Body State Name: HeroStateGrind
Body State Time: 0.23
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 104.54
Ground Type: Bad Distance
Health: 85.22 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (104.59)
State: HeroStateGrind (0.23)
Voice: Player
CombatTracker state: In combat
Total Targeter Count: 11.00000000
Fizzco Targeter Count: 0.00000000
SCAB Targeter Count: 0.00000000
OD Targeter Count: 11.00000000
```


Still Not Good Enough

- The ground is lava.
- Close to the ground is pretty good too.
- Traversal is a win-button.
—Worse than that... it's boring.



Traversal Denial

- Recently used.
- Soon to be used.
- Proximity.



Time traversing: 0.00

00 accepted jobs out of 00 jobs, for 0% near targets
Mission's setting used: 0F0_FAC_MISSION

Actor Name: Female_Skinny
Actor Handle: 0x20641f
Actor UID: 8ee91000002080
Asset Name: hfx_base
Region: (None)
Zone: (None)
Scene Handle: 0x10278ee
Pos: (-712.16, 18.89, 117.55)
Rot: (0.00, -83.25, 0.00)
Allegiance: MP Blue Team
Body State Name: HeroStateRun
Body State Time: 1.82
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 193.61
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (193.61)
State: HeroStateRun (1.82)
Voice: Player
CombatTracker state: In combat
Total Targeter Count: 25.00000000
Fizzco Targeter Count: 0.00000000
SCAB Targeter Count: 0.00000000
00 Targeter Count: 25.00000000

All Together Now





What Are Firepoints?

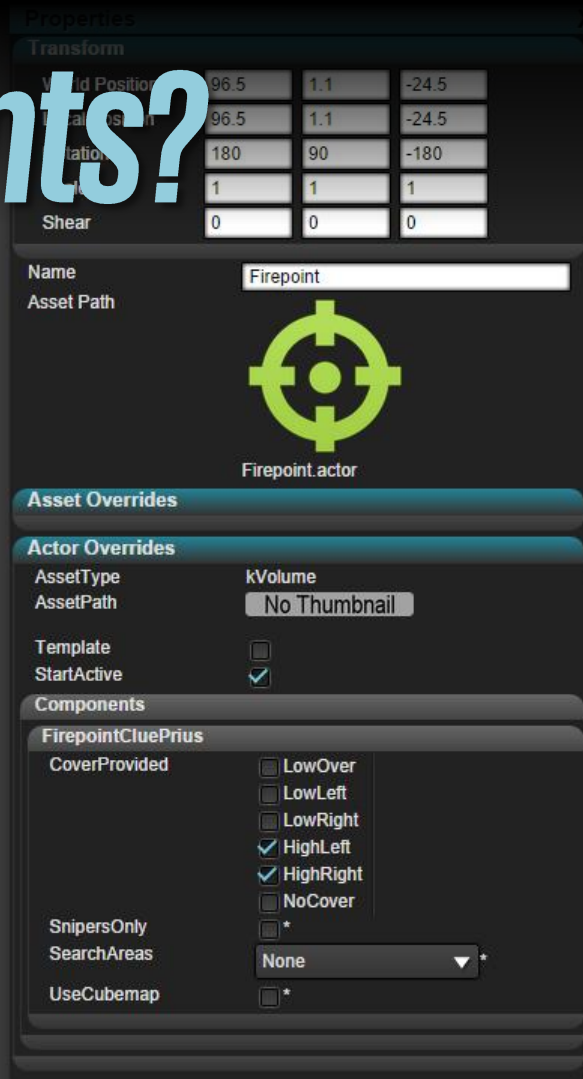
- Annotated good positions.

- Evaluated in real-time

—Proximity

—Angle

—Line of sight



Why They Suck For SO

- *Cover is slow*
- *Felt unfair*
- *Rapid traversal*



Why They Suck For SO

- *Scoring was getting out-of-control:*
 - *Angle*
 - *Provides Cover*
 - *Provides LOS*
 - *Friends Too Close*
 - *Enemies Too Close*
 - *Range*
 - *Combat Anchor*
 - *Danger*
 - *Too Close*
 - *Too Far*

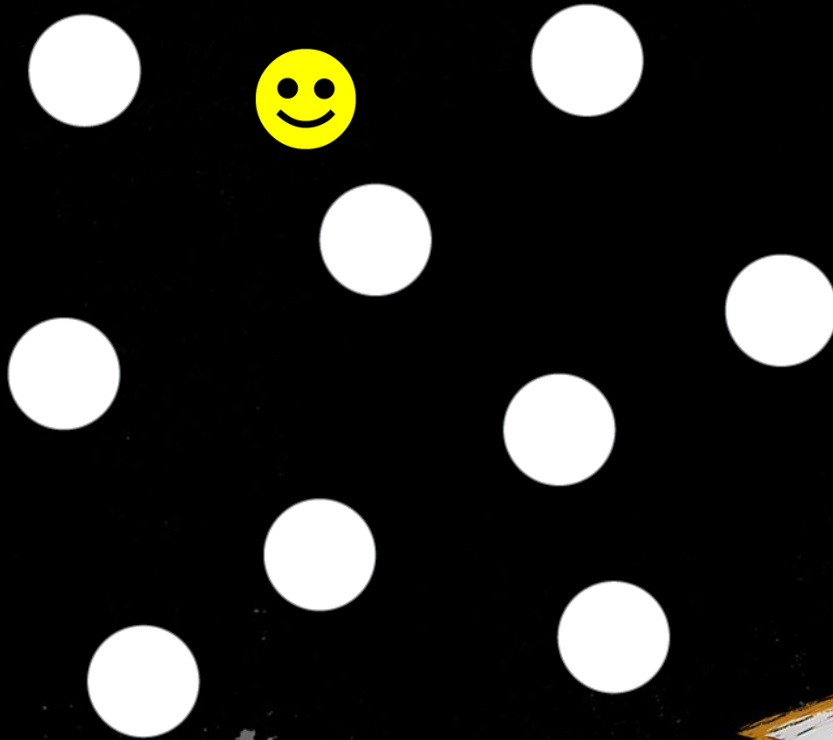
Perches



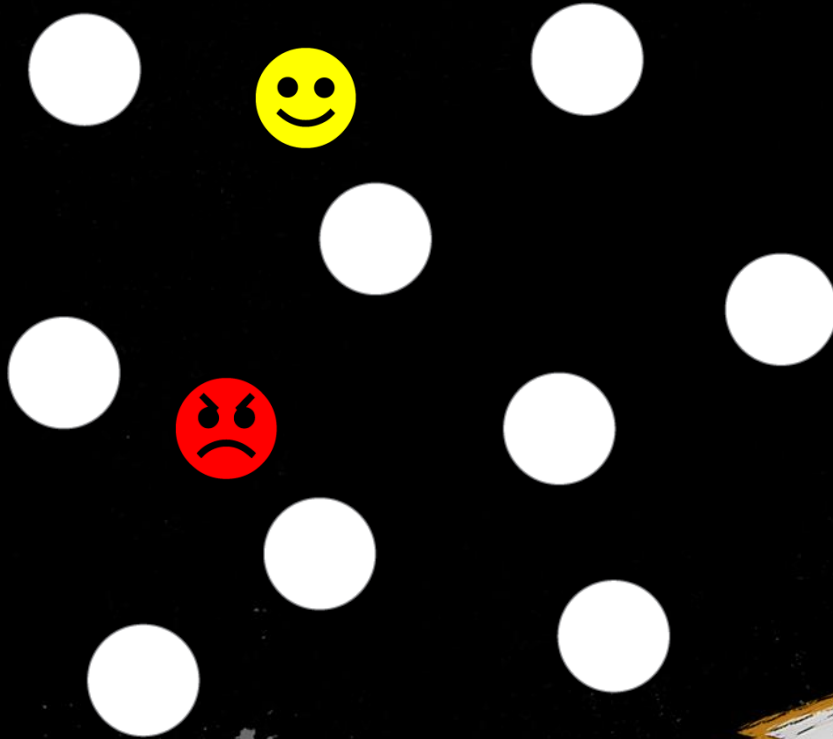
Occlusion



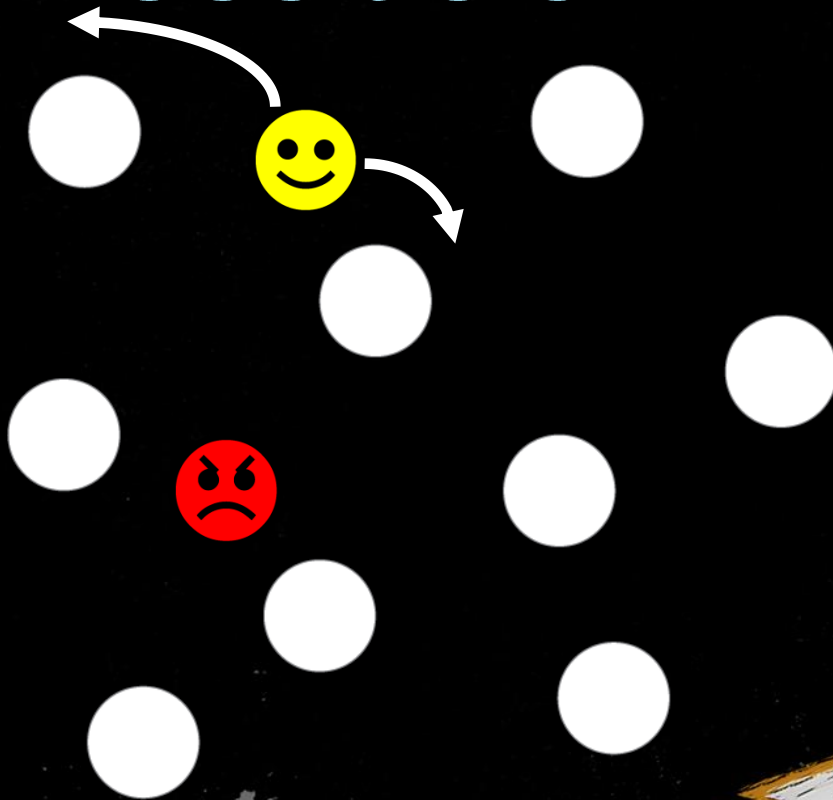
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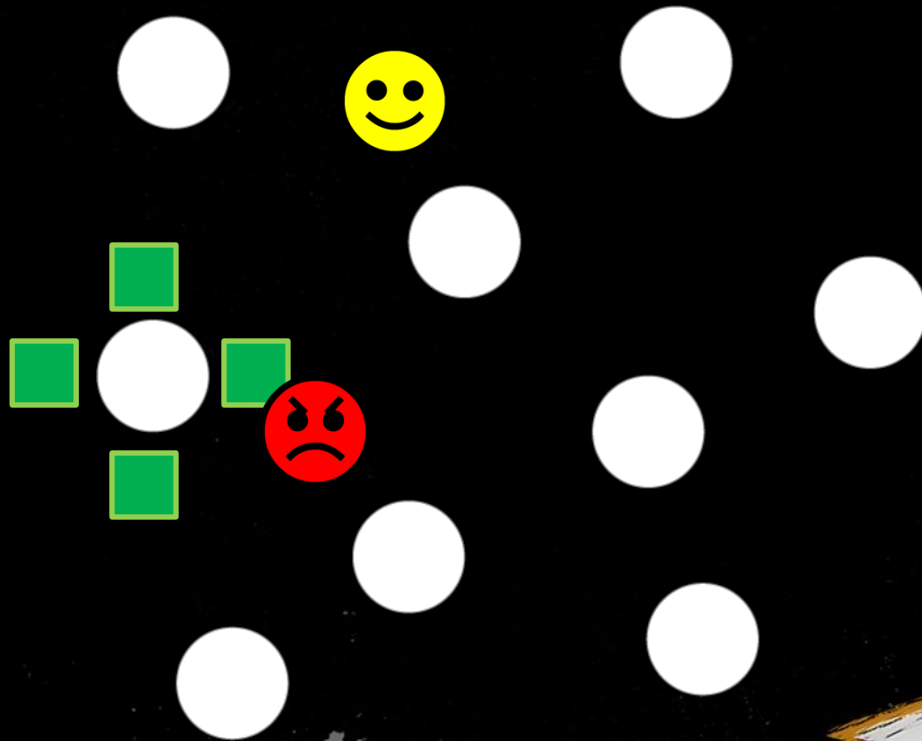
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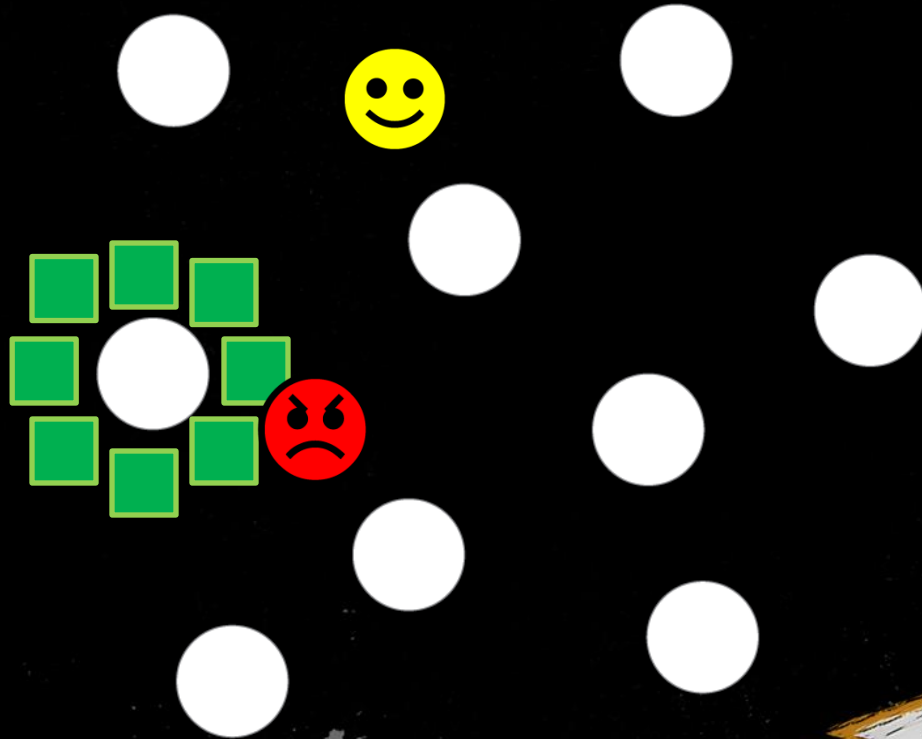
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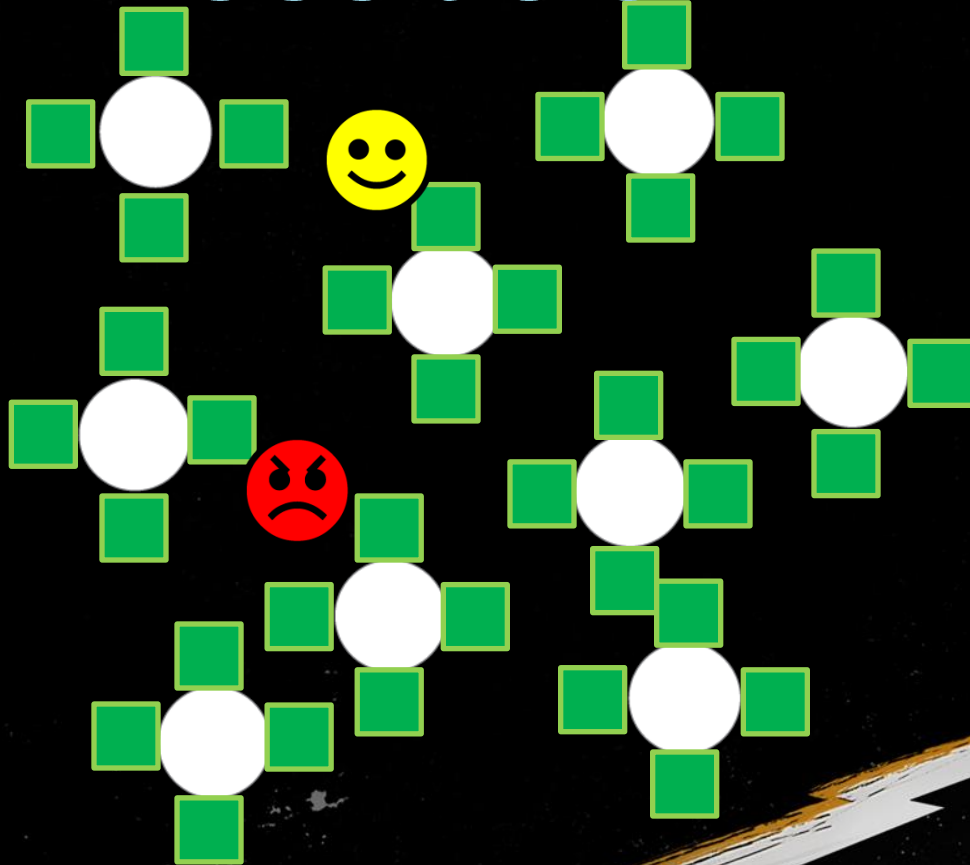
Occlusion



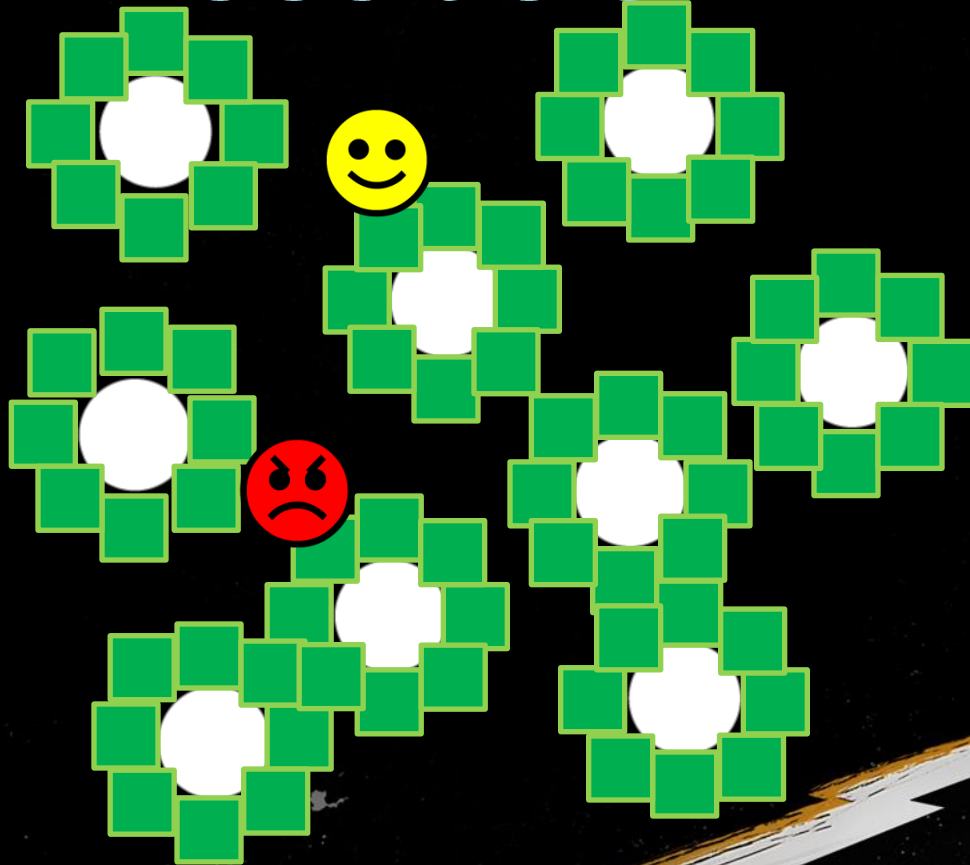
Occlusion



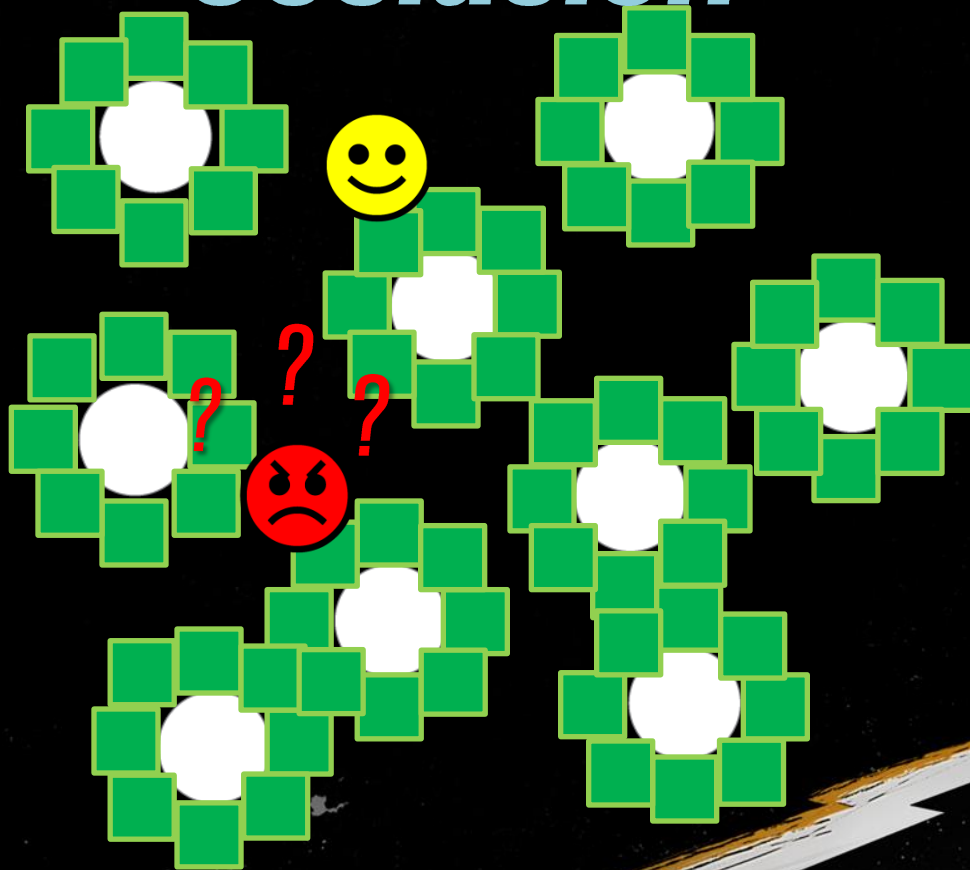
Occlusion



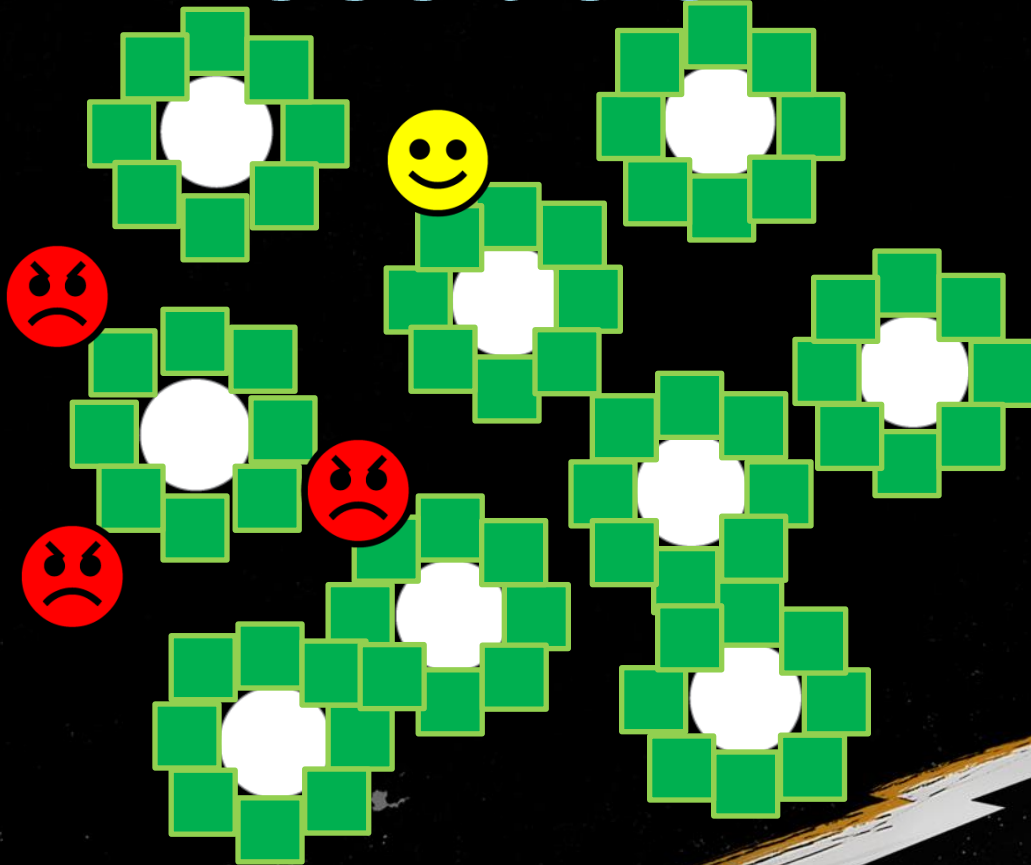
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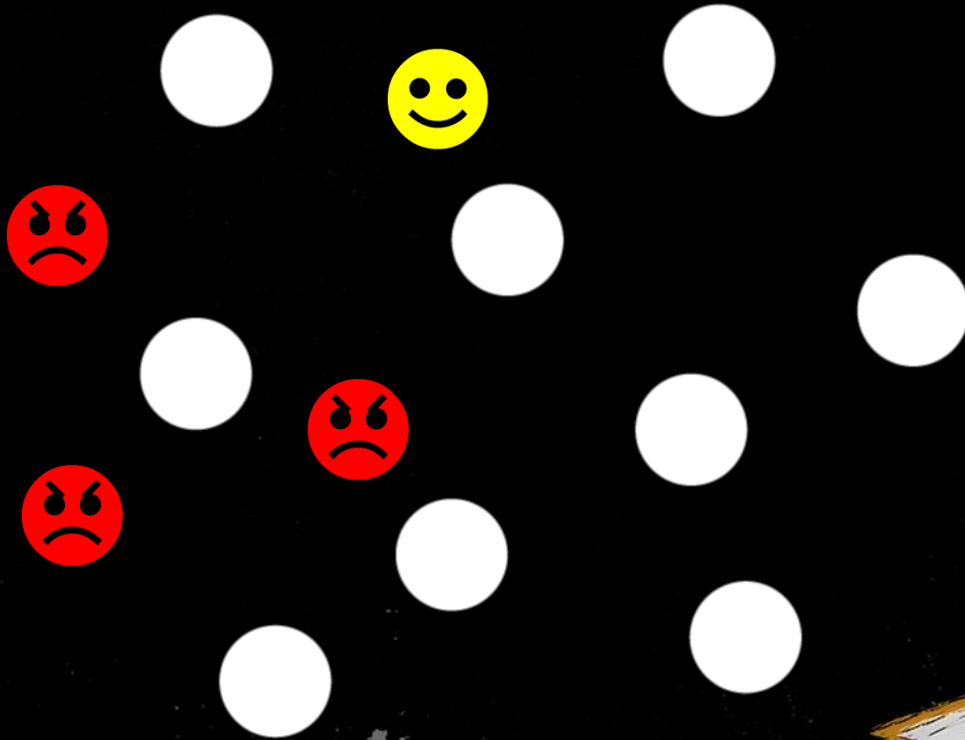
Occlusion

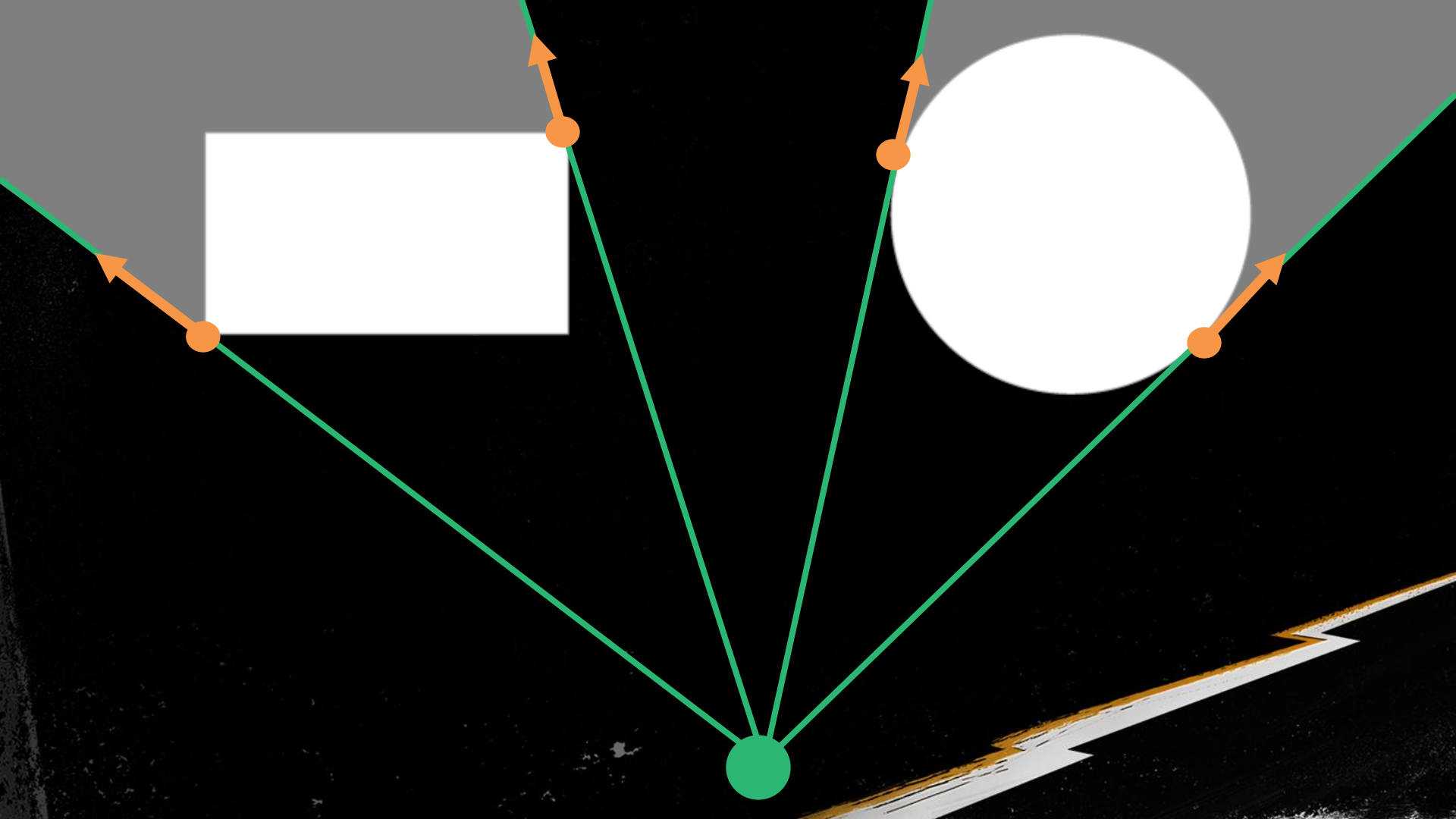


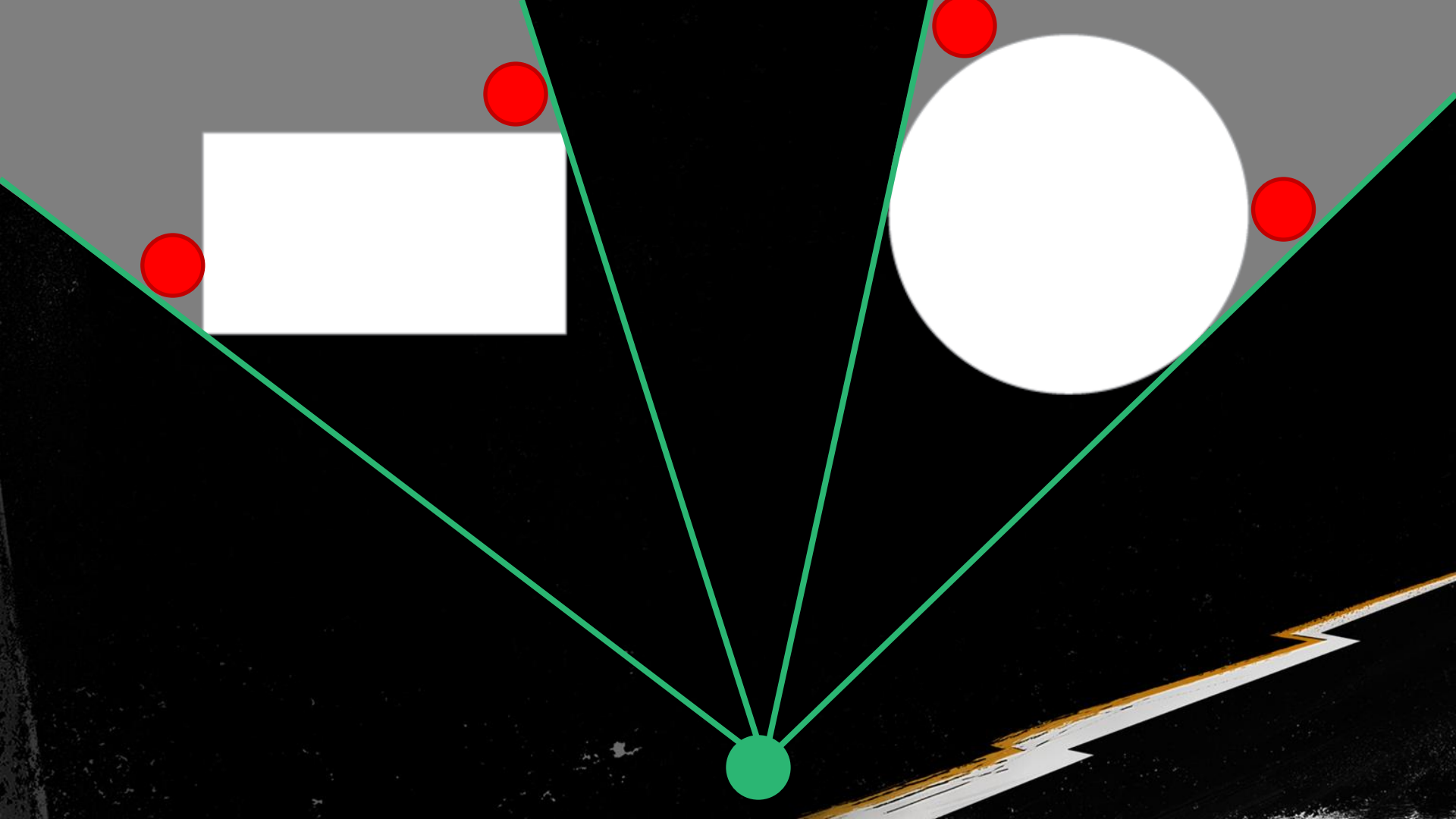
Occlusion

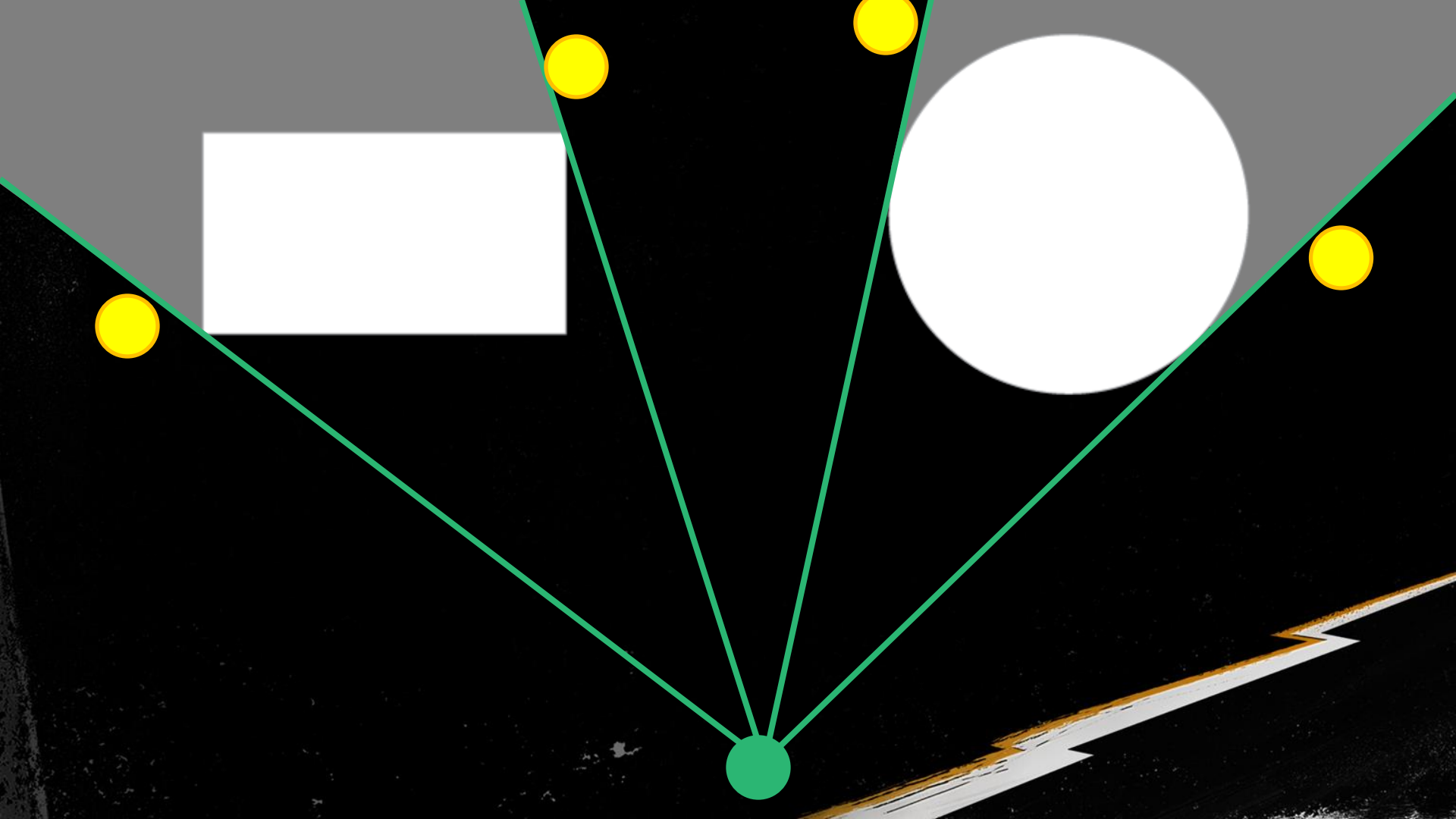


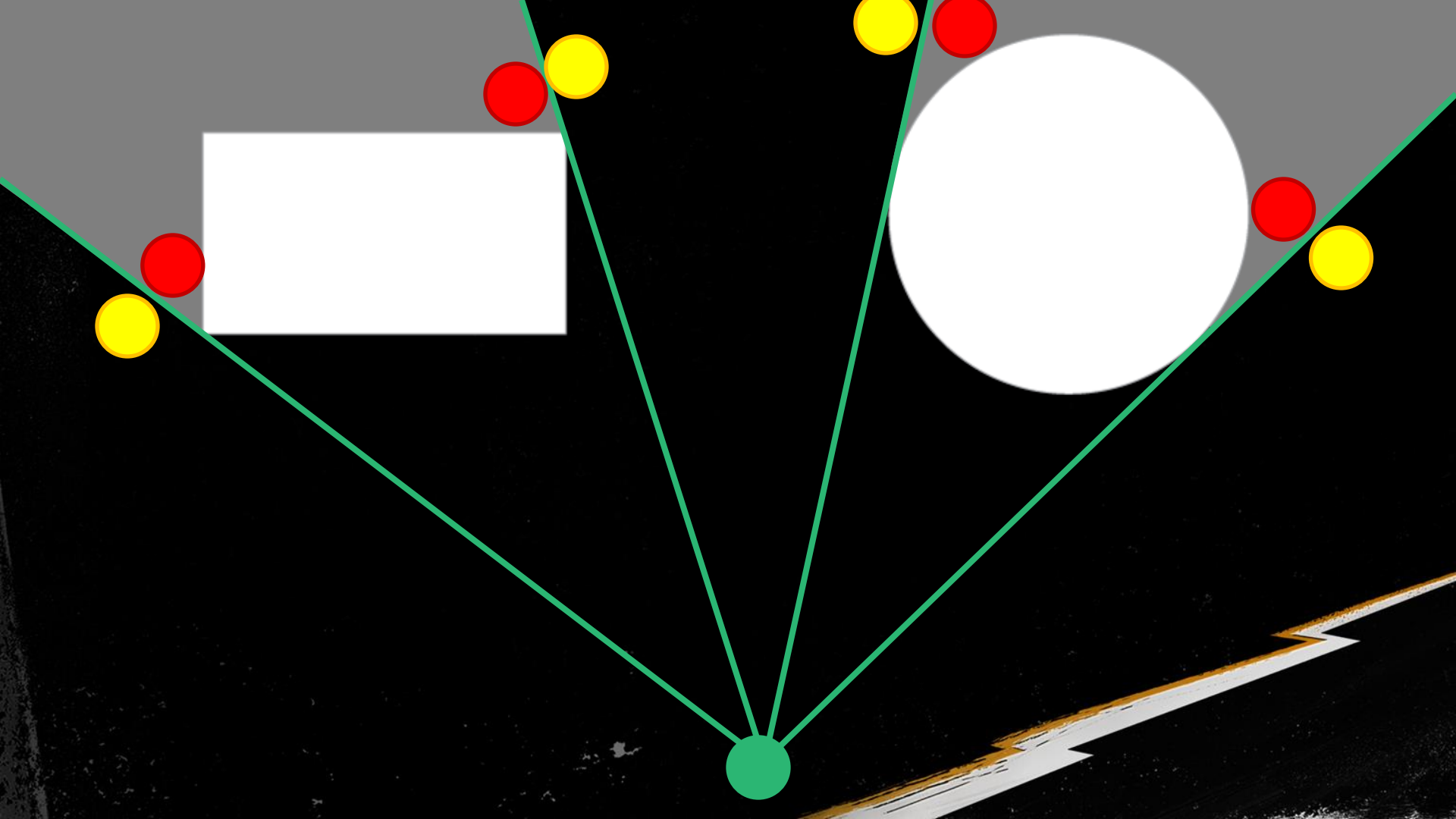
Occlusion











Occlusion



Line Occlusion

A diagram illustrating line occlusion. A green line starts from a green dot in the bottom-left area and extends diagonally upwards to the right, ending at a red dot. The background is split into three main regions: a dark, textured area on the left, a grey area in the top-right, and a white area in the bottom-right. The text 'Line Occlusion' is written in a light blue, italicized font at the top. The text 'Side View' is written in a black, italicized font in the white area.

Side View

Line Occlusion



The diagram shows a 3D scene with a dark, textured ground plane and a light gray sky. A green line, representing a ray, originates from a green circle on the ground and extends upwards and to the right. It passes through a yellow circle and then a red circle, both of which are positioned above the ground plane. The red circle is further along the line and is partially obscured by the yellow circle, demonstrating line occlusion. The text 'Line Occlusion' is written in a large, light blue, italicized font at the top left. The text 'Side View' is written in a black, italicized font on the right side, next to a white rectangular area.

Side View

Line Occlusion



Playing Fair

- Chaotic, unfair and frustrating
- Massive readability problems
- Not supporting traverse and shoot gameplay.

X5
Combo Counter



- Avoid overwhelming the player.
- Don't limit firerate.
- Coordinate shots.

Group Targeting



Scab and Fizzco Nerfing

- *On screen and in range*



Out Of Range Nerf

- *On screen and in range*
- *Out of range*



Off Screen Nerf

- *On screen and in range*
- *Out of range*
- *Off screen*



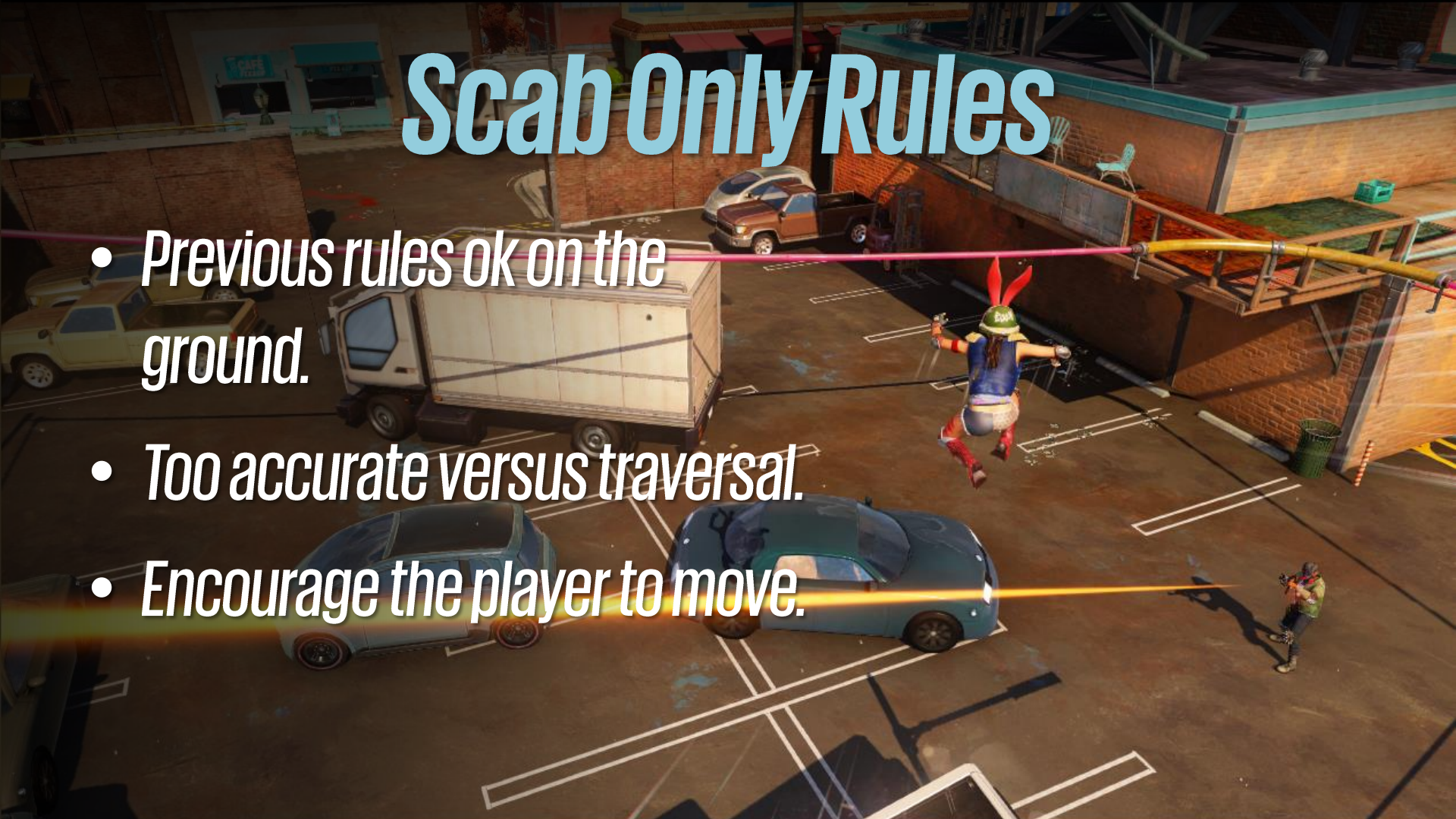
Close Range Anti-Nerf

- *On screen and in range*
- *Out of range*
- *Off screen*
- *Close*
- *At least one accurate enemy*



Scab Only Rules

- Previous rules ok on the ground.
- Too accurate versus traversal.
- Encourage the player to move.



Bouncing



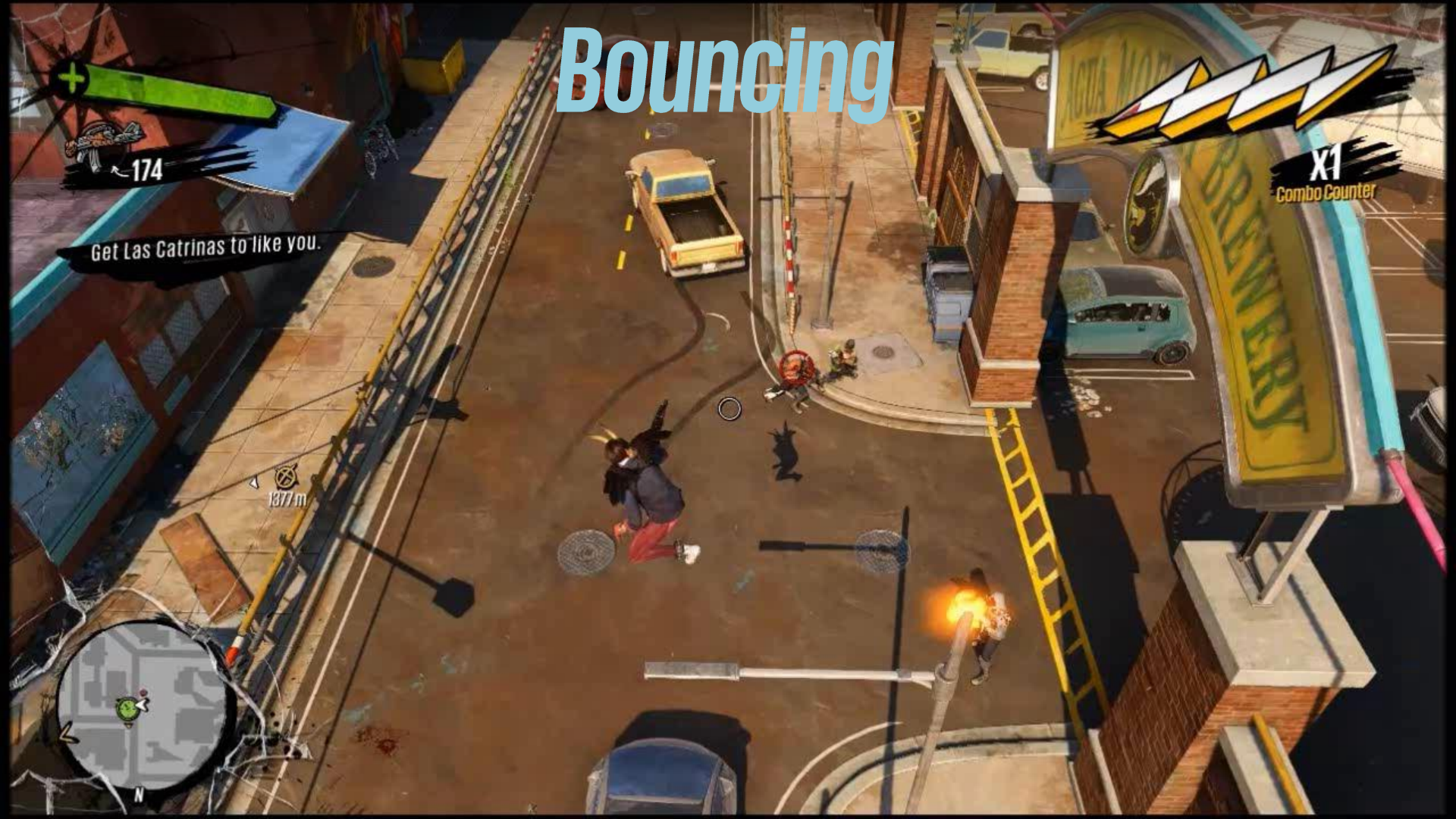
174

Get Las Catrinas to like you.

1377 m



X1
Combo Counter



Grinding



Breadcrumbs

1.6868784
1.6892811592315984
1.6801517
1.6801517
0.0000000
Actor Name: Female_Skinny
Actor Handle: 0x100225
Actor UID: 0x0000000002032
Asset Name: hfs_base
Region: (None)
Zone: (None)
Scene Handle: 0x1018015
Pos: (-801.65, 39.18, 15.01)
Rot: (0.00, -137.50, 0.00)
Allegiance: MR Blue Team
Body State Name: HeroStateGrindCorner
Body State Time: 0.37
Weapon State Name: HeroWeaponStateIdleReady
Weapon State Time: 248.25
Ground Type: Bad Distance
Health: 100.00 / 100.00 Injured: 0.00
Target Immunity: 0
State: HeroWeaponStateIdleReady (248.25)
State: HeroStateGrindCorner (0.37)
Voice: Player
CombatTracker state: Not in combat



180

Get Las Catrinas to like you.

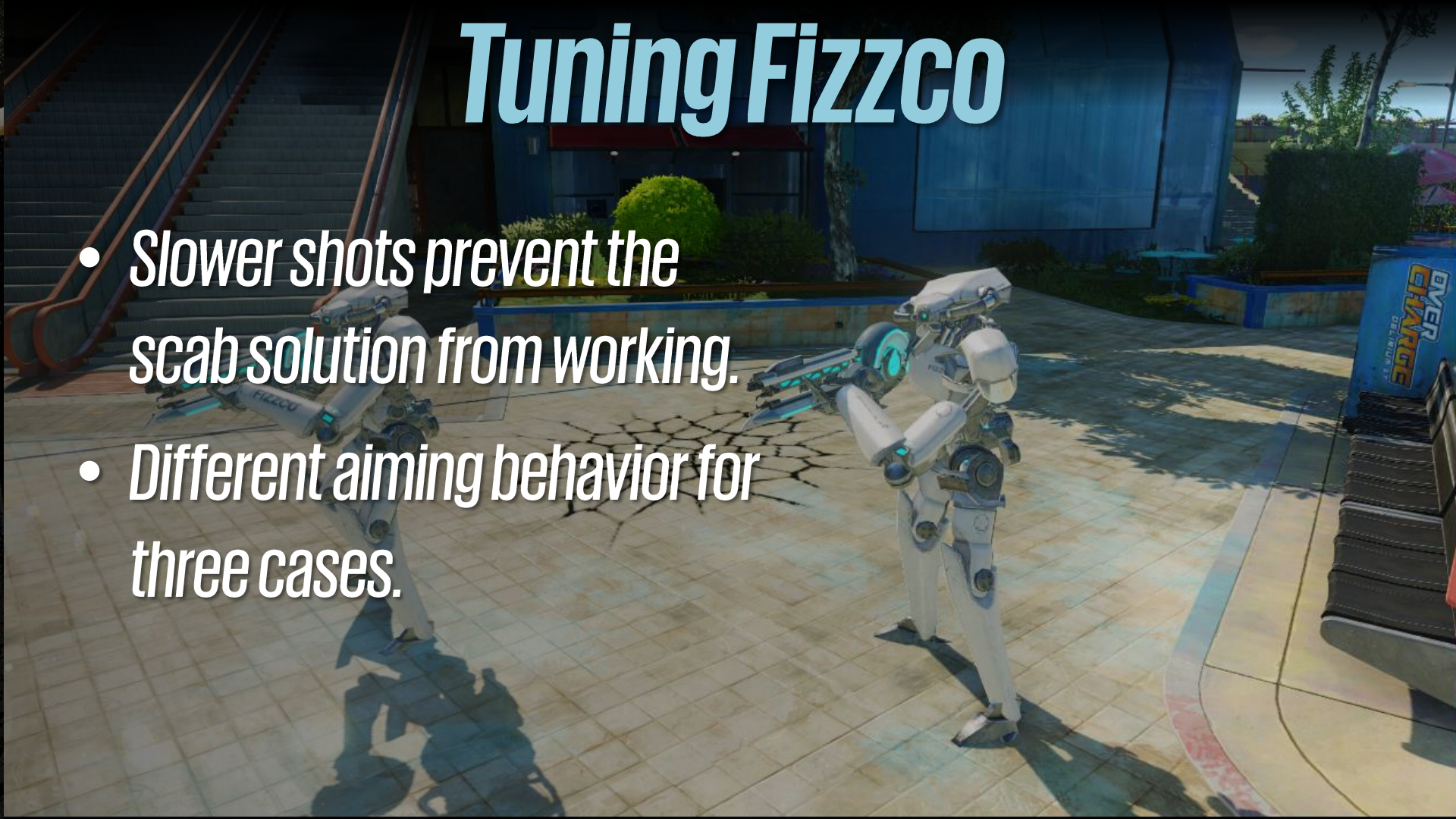
1385m

You have an empty Amp Slot.



Tuning Fizzco

- *Slower shots prevent the scab solution from working.*
- *Different aiming behavior for three cases.*



Tuning Fizzco



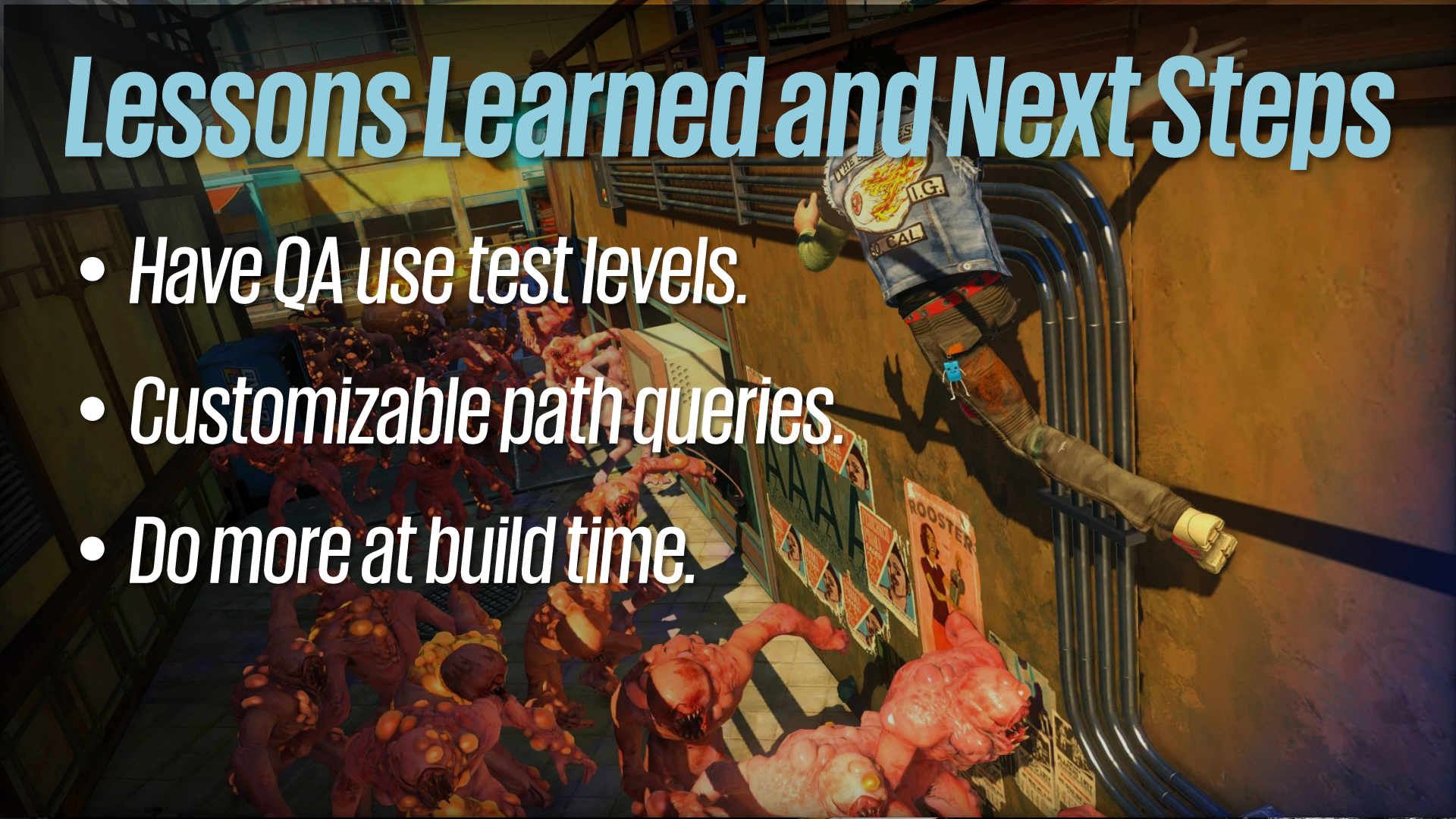
Too Much Motion

- Lots of simultaneous motion is confusing.
- One at a time per squad.
 - Unless they are being actively damaged.
 - Or if the player is very close.



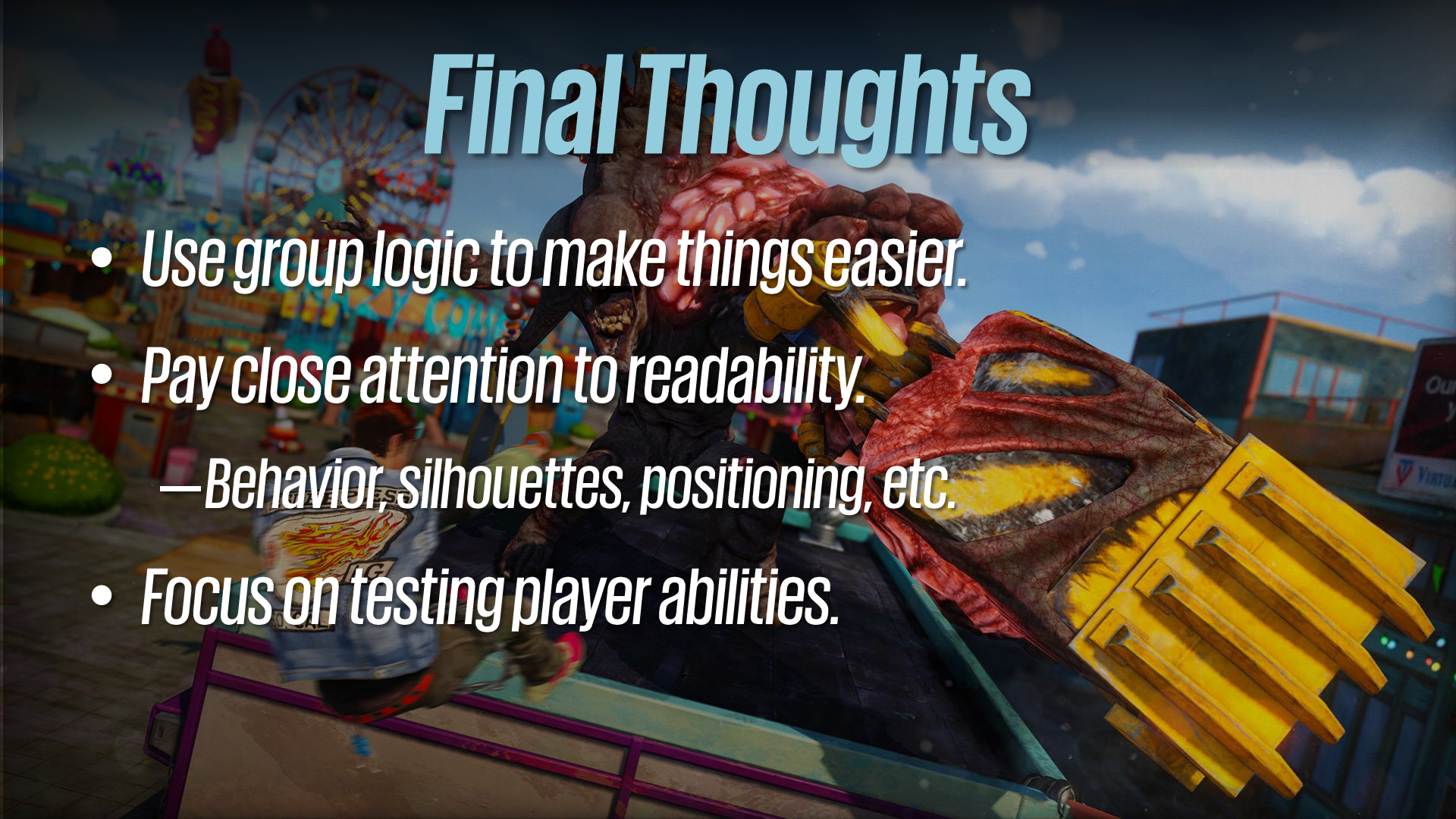
Lessons Learned and Next Steps

- *Have QA use test levels.*
- *Customizable path queries.*
- *Do more at build time.*



Final Thoughts

- Use group logic to make things easier.
- Pay close attention to readability.
 - Behavior, silhouettes, positioning, etc.
- Focus on testing player abilities.



Thanks!

- Mark Cerny
- Ian McMeans
- Joel Goodsell
- Jonathan Adamczewski
- Ryan Smith





QUESTIONS?

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